S99P266 *P00

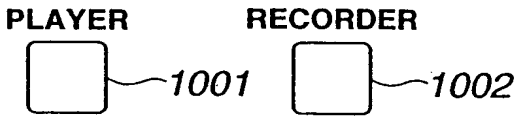

FIG.1
(PRIOR ART)

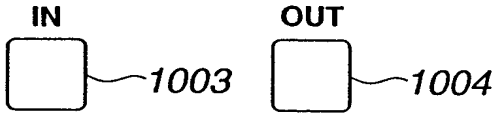

FIG.2
(PRIOR ART)

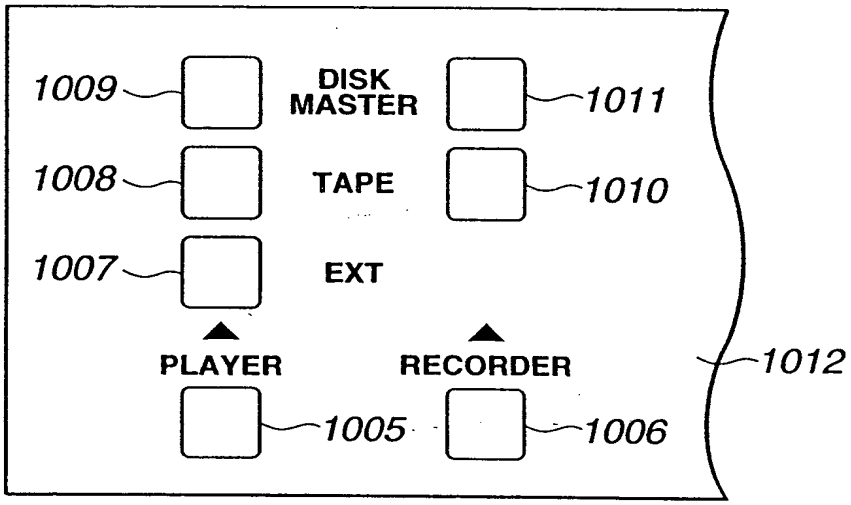

FIG.3
(PRIOR ART)

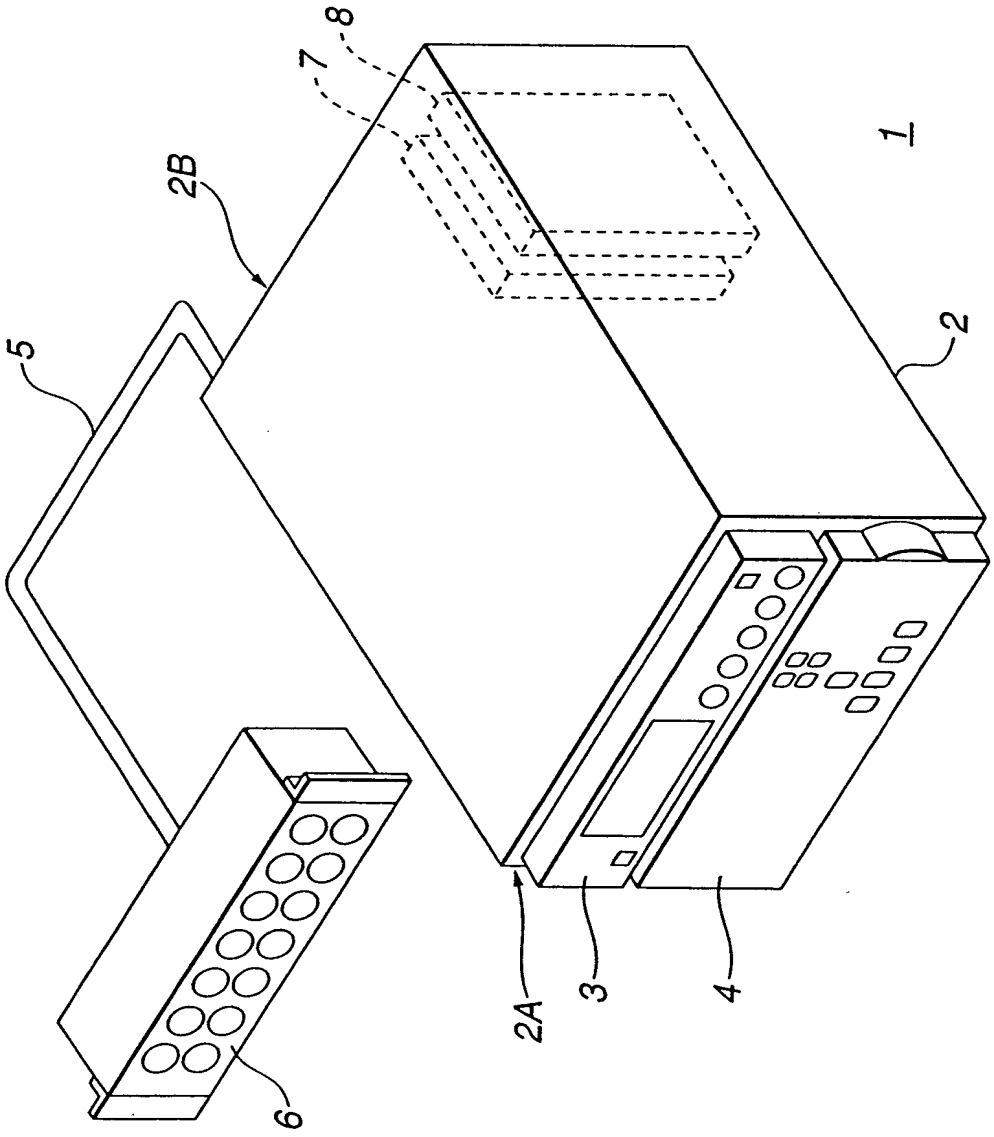

FIG.4

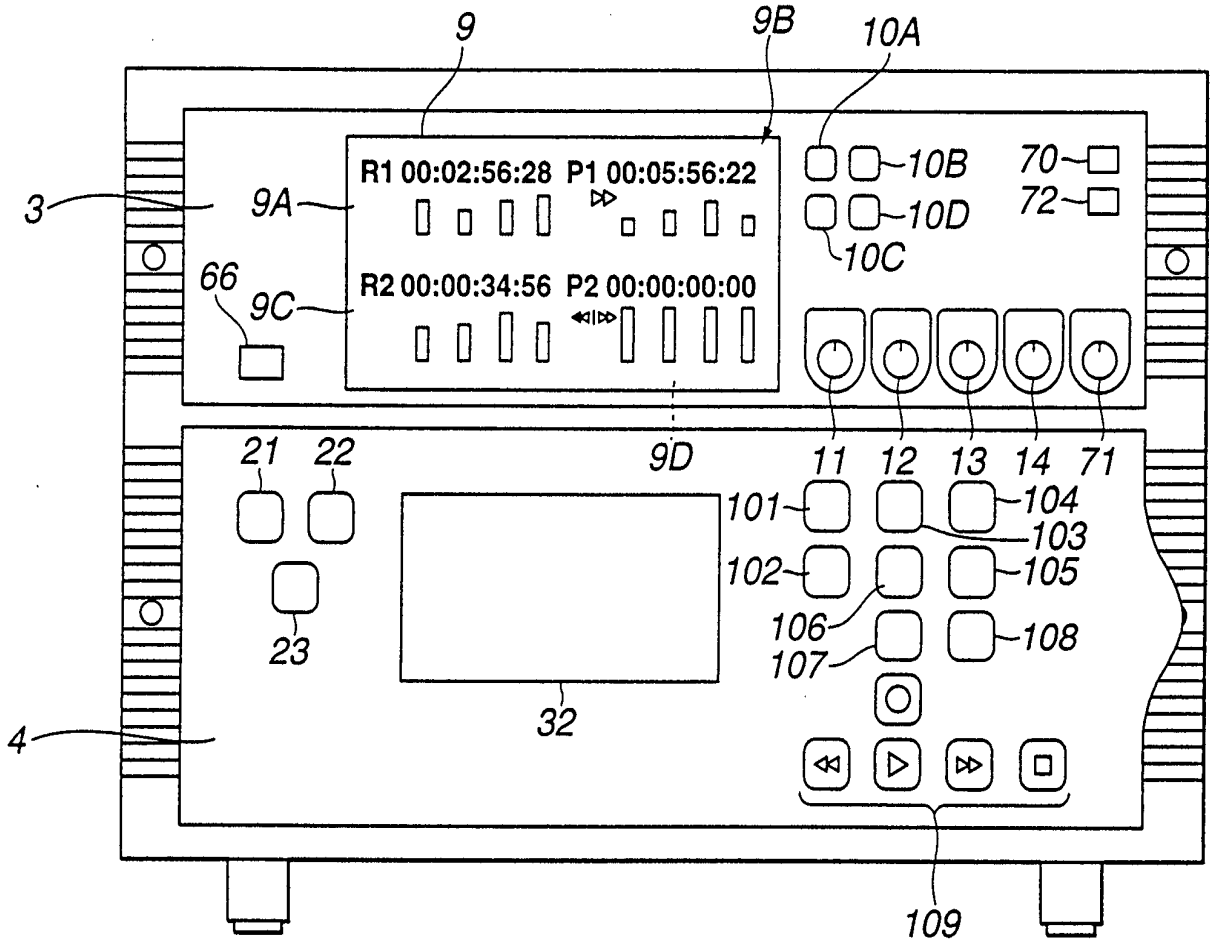
9
9B
10A
R1 00:02:56:28 P1 00:05:56:22
R2 00:00:34:56 P2 00:00:00:00
3
9A
66
9C
10B
10D
10C
70
72
21
22
23
9D
32
11
12
13
14
71
101
102
103
104
105
106
107
108
4
109

FIG.5

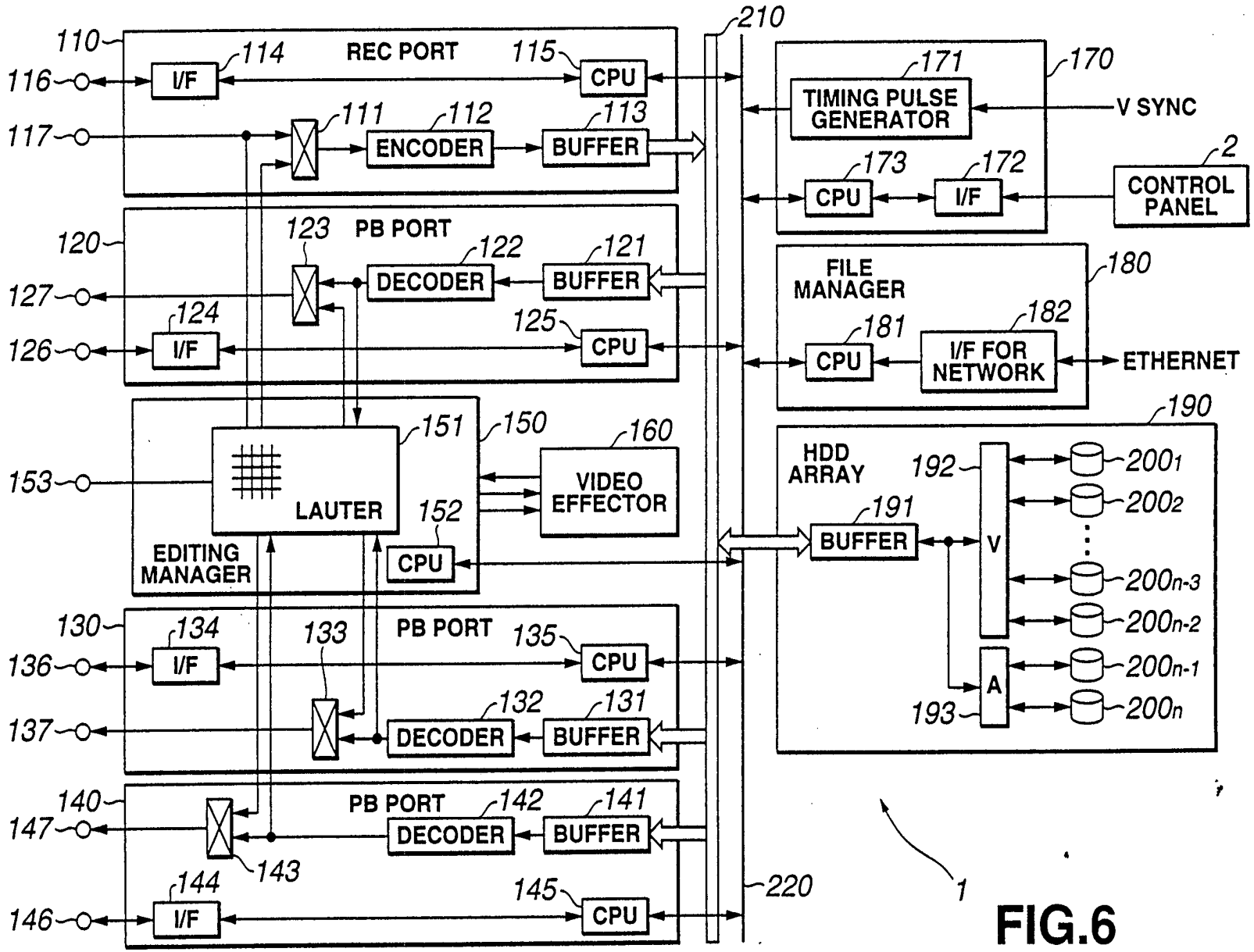
110
116
I/F
114
REC PORT
115
CPU
117
111
ENCODER
112
BUFFER
113
120
123
PB PORT
127
DECODER
122
BUFFER
121
124
126
I/F
125
CPU
153
LAUTER
151
150
160
VIDEO EFFECTOR
152
EDITING MANAGER
CPU
130
134
I/F
133
PB PORT
135
CPU
136
137
DECODER
132
BUFFER
131
140
147
PB PORT
DECODER
142
BUFFER
141
143
144
146
I/F
145
CPU
210
220
170
171
TIMING PULSE GENERATOR
V SYNC
173
CPU
172
I/F
2
CONTROL PANEL
180
FILE MANAGER
181
CPU
182
I/F FOR NETWORK
ETHERNET
190
HDD ARRAY
192
191
BUFFER
V
A
193
200₁
200₂
200n-3
200n-2
200n-1
200n
1

FIG.6

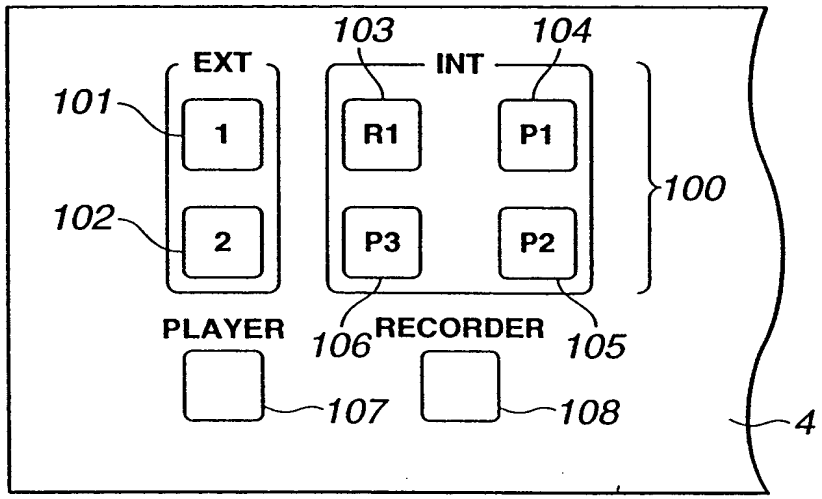
EXT
INT
103
104
101
1
R1
P1
100
102
2
P3
P2
PLAYER
106
RECORDER
105
107
108
4

FIG.7

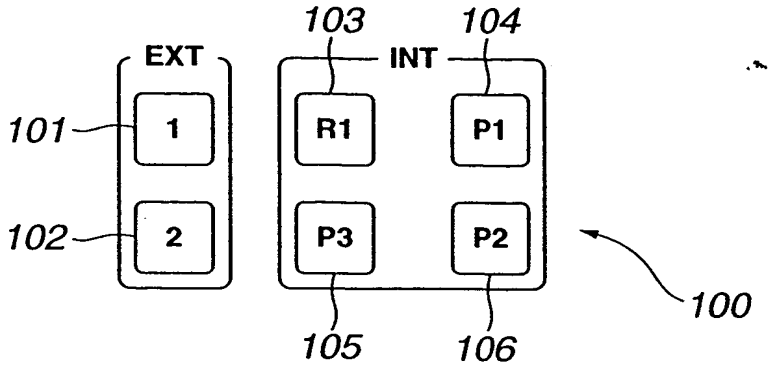
103
104
EXT
INT
101
1
R1
P1
102
2
P3
P2
100
105
106

FIG.8

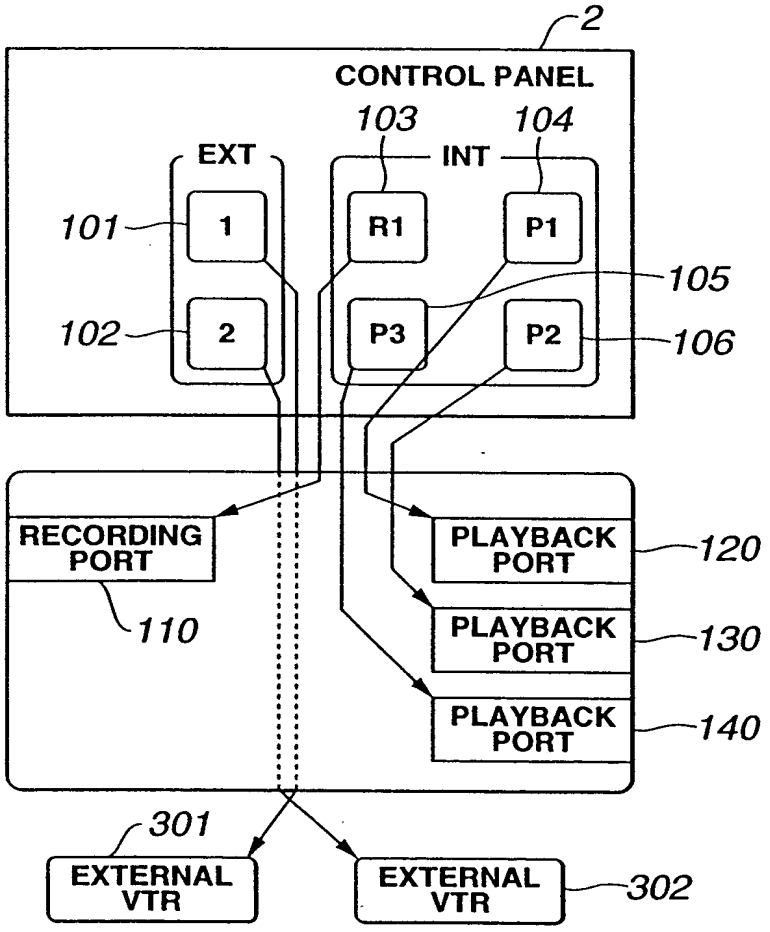
2
CONTROL PANEL
103
104
EXT
INT
101
1
R1
P1
105
102
2
P3
P2
106
RECORDING PORT
110
PLAYBACK PORT
120
PLAYBACK PORT
130
PLAYBACK PORT
140
301
EXTERNAL VTR
EXTERNAL VTR
302

FIG.9

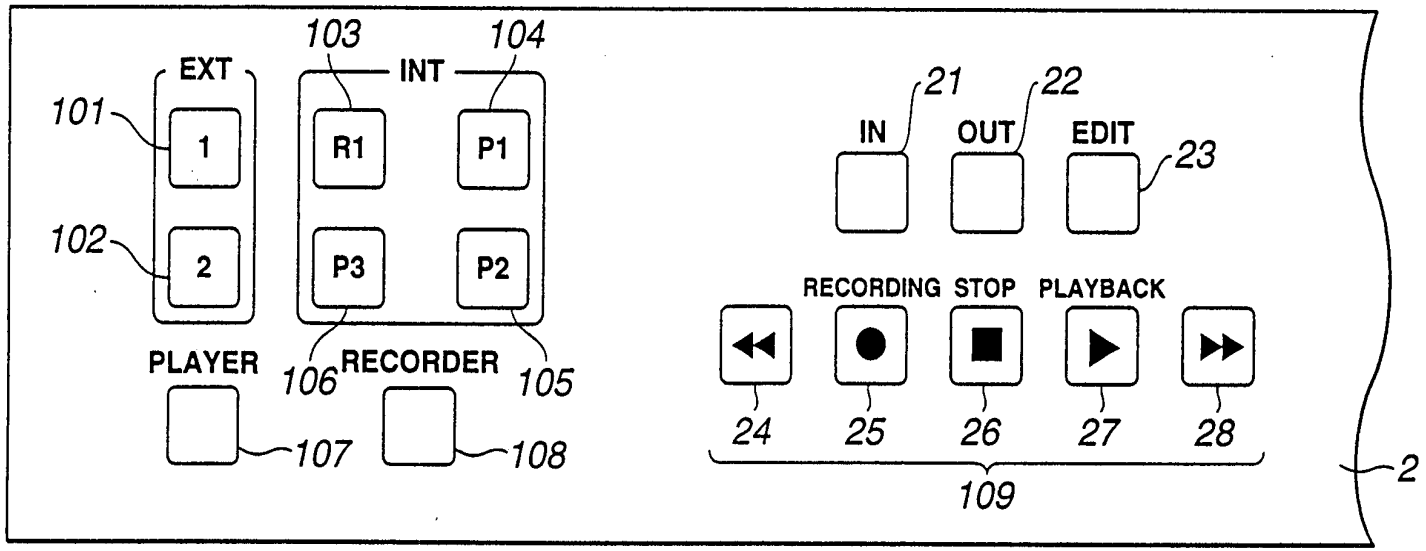
EXT
INT
101
102
103
104
1
2
R1
P1
P3
P2
PLAYER
RECORDER
106
105
107
108
IN
OUT
EDIT
21
22
23
RECORDING
STOP
PLAYBACK
24
25
26
27
28
109
2

FIG.10

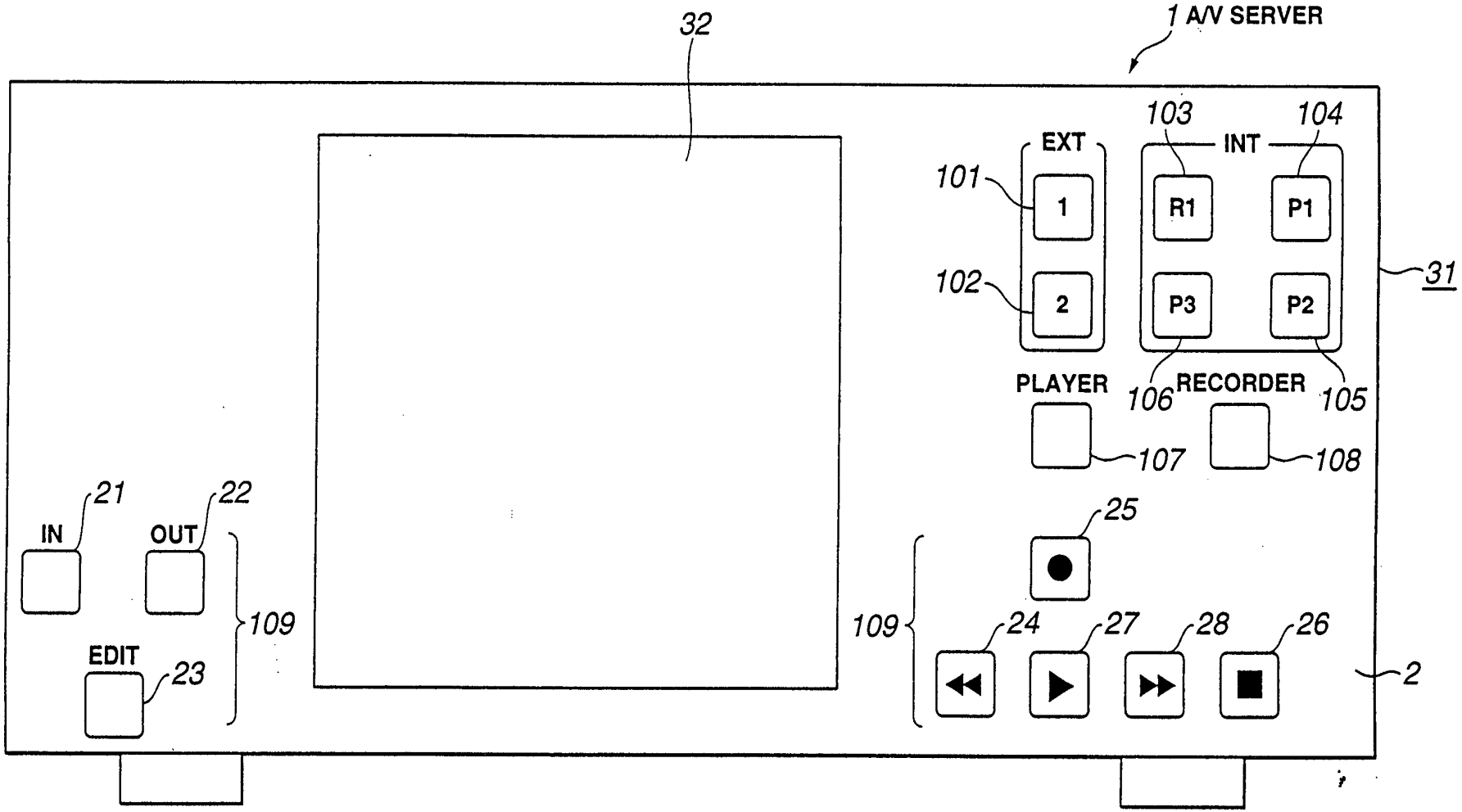
1 A/V SERVER
32
EXT
INT
103
104
101
1
R1
P1
102
2
P3
P2
31
PLAYER
RECORDER
106
105
107
108
IN
21
OUT
22
109
EDIT
23
25
109
24
27
28
26
2

FIG.11

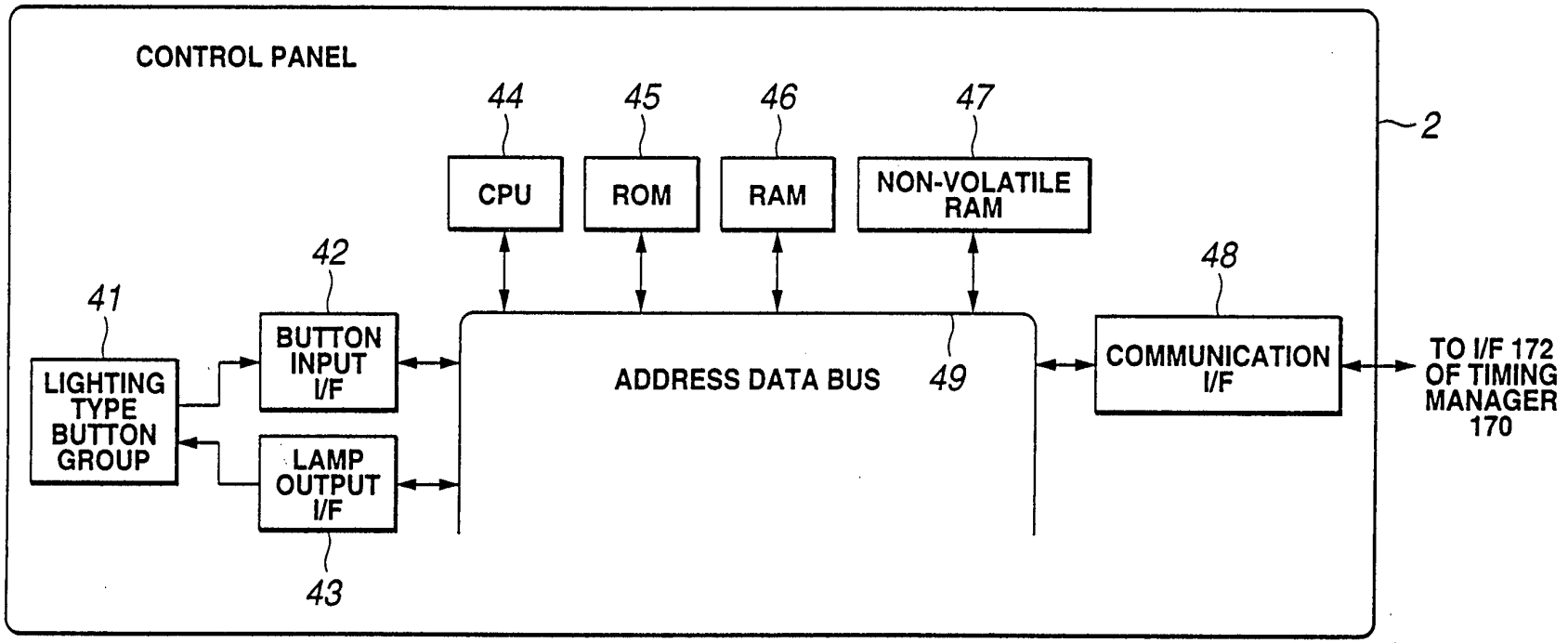
CONTROL PANEL
2
44
45
46
47
CPU
ROM
RAM
NON-VOLATILE RAM
42
48
41
BUTTON INPUT I/F
ADDRESS DATA BUS
49
COMMUNICATION I/F
TO I/F 172 OF TIMING MANAGER 170
LIGHTING TYPE BUTTON GROUP
LAMP OUTPUT I/F
43

FIG.12

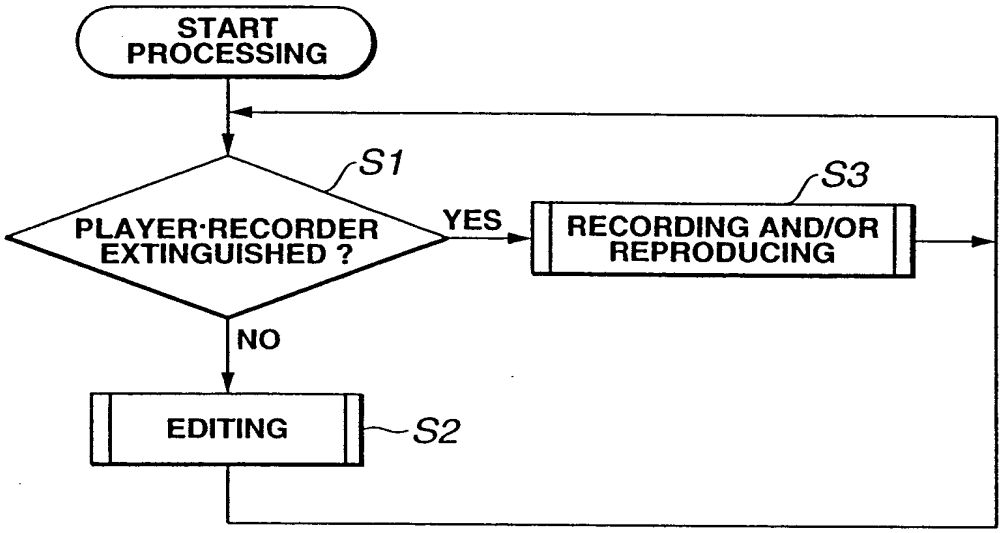
START PROCESSING
S1
PLAYER·RECORDER EXTINGUISHED ?
YES
S3
RECORDING AND/OR REPRODUCING
NO
EDITING
S2

FIG.13

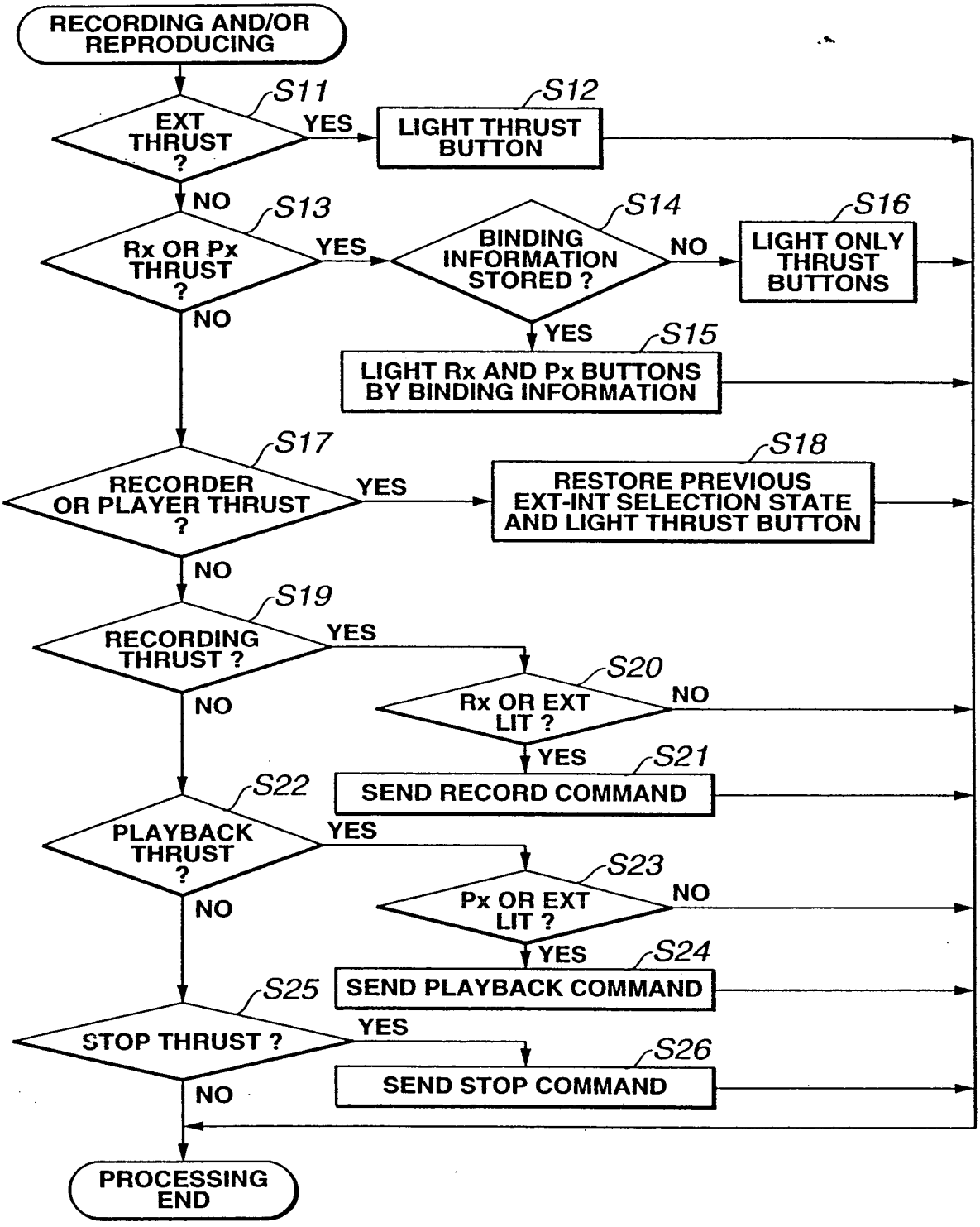
RECORDING AND/OR REPRODUCING
S11
EXT THRUST ?
YES
S12
LIGHT THRUST BUTTON
NO
S13
Rx OR Px THRUST ?
YES
S14
BINDING INFORMATION STORED ?
NO
S16
LIGHT ONLY THRUST BUTTONS
NO
YES
S15
LIGHT Rx AND Px BUTTONS BY BINDING INFORMATION
S17
RECORDER OR PLAYER THRUST ?
YES
S18
RESTORE PREVIOUS EXT-INT SELECTION STATE AND LIGHT THRUST BUTTON
NO
S19
RECORDING THRUST ?
YES
S20
Rx OR EXT LIT ?
NO
NO
YES
S21
SEND RECORD COMMAND
S22
PLAYBACK THRUST ?
YES
S23
Px OR EXT LIT ?
NO
NO
YES
S24
SEND PLAYBACK COMMAND
S25
STOP THRUST ?
YES
S26
SEND STOP COMMAND
NO
PROCESSING END

FIG.14

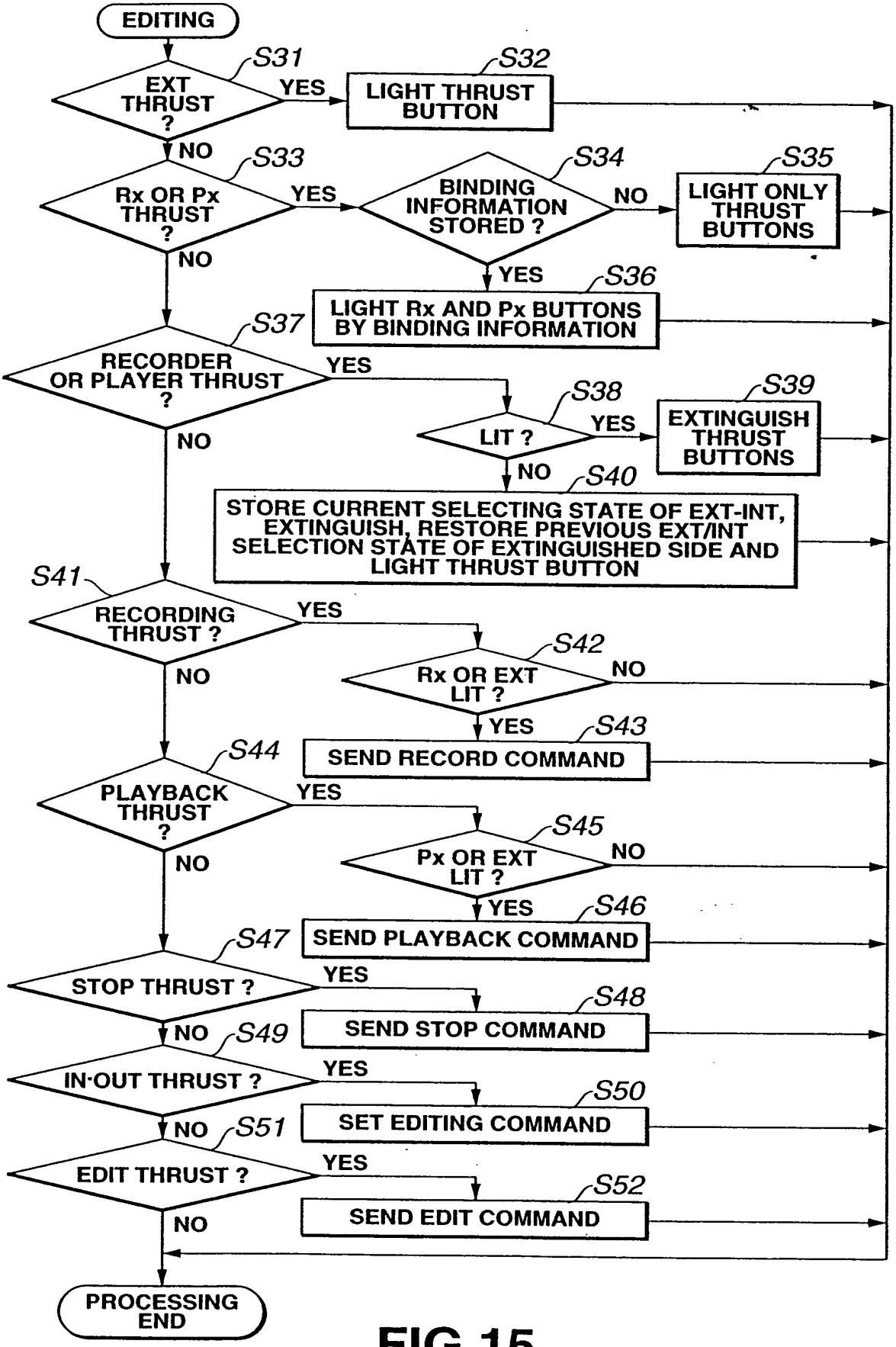
EDITING
S31
EXT THRUST ?
YES
S32
LIGHT THRUST BUTTON
NO
S33
Rx OR Px THRUST ?
YES
S34
BINDING INFORMATION STORED ?
NO
S35
LIGHT ONLY THRUST BUTTONS
NO
YES
S36
LIGHT Rx AND Px BUTTONS BY BINDING INFORMATION
S37
RECORDER OR PLAYER THRUST ?
YES
S38
LIT ?
YES
S39
EXTINGUISH THRUST BUTTONS
NO
S40
STORE CURRENT SELECTING STATE OF EXT-INT, EXTINGUISH, RESTORE PREVIOUS EXT/INT SELECTION STATE OF EXTINGUISHED SIDE AND LIGHT THRUST BUTTON
NO
S41
RECORDING THRUST ?
YES
S42
Rx OR EXT LIT ?
NO
YES
S43
SEND RECORD COMMAND
NO
S44
PLAYBACK THRUST ?
YES
S45
Px OR EXT LIT ?
NO
YES
S46
SEND PLAYBACK COMMAND
NO
S47
STOP THRUST ?
YES
S48
SEND STOP COMMAND
NO
S49
IN·OUT THRUST ?
YES
S50
SET EDITING COMMAND
NO
S51
EDIT THRUST ?
YES
S52
SEND EDIT COMMAND
NO
PROCESSING END

FIG.15

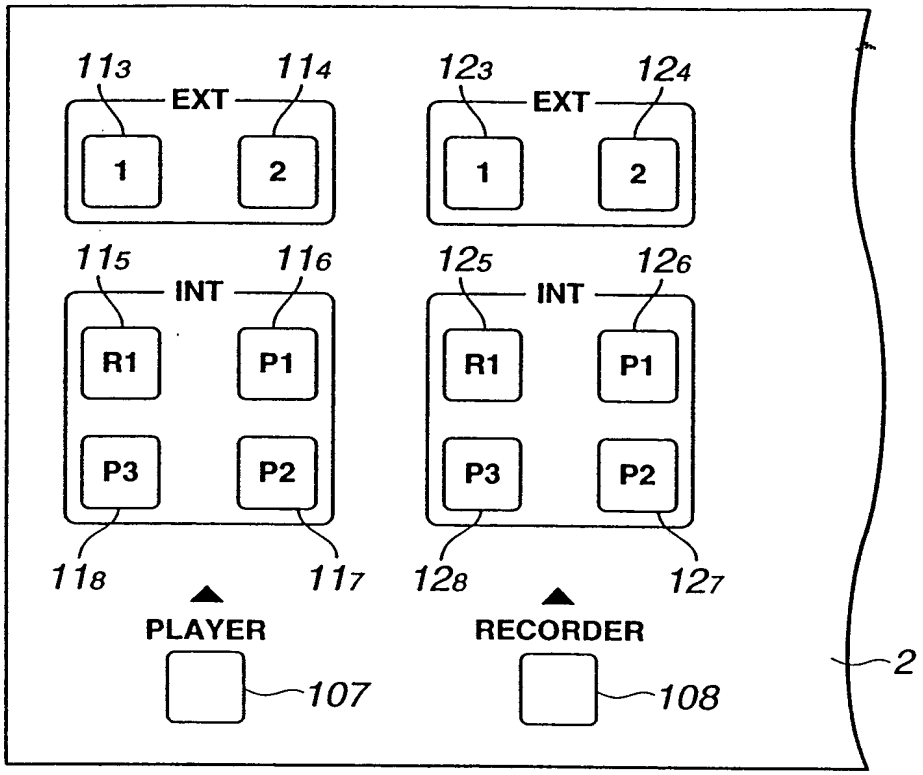
113
114
EXT
1
2
123
124
EXT
1
2
115
116
INT
R1
P1
P3
P2
125
126
INT
R1
P1
P3
P2
118
117
128
127
PLAYER
RECORDER
107
108
2

FIG.16

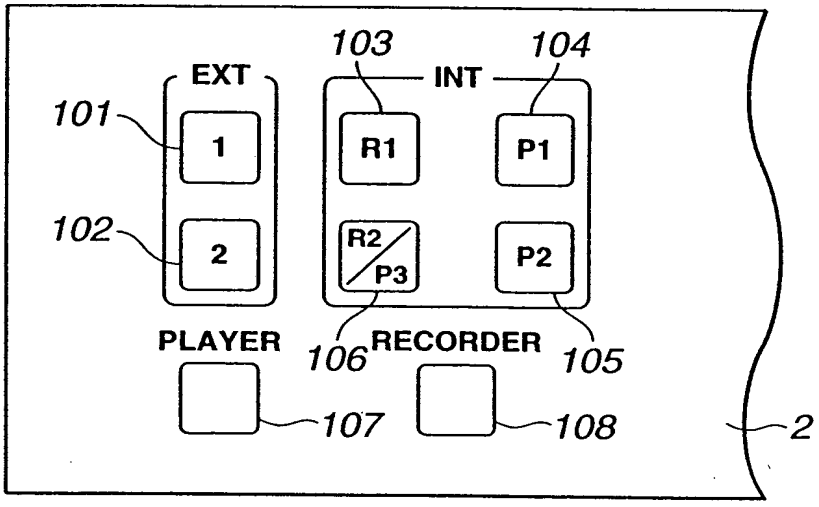
103
104
EXT
INT
101
1
R1
P1
102
2
R2
P3
P2
PLAYER
106
RECORDER
105
107
108
2

FIG.17

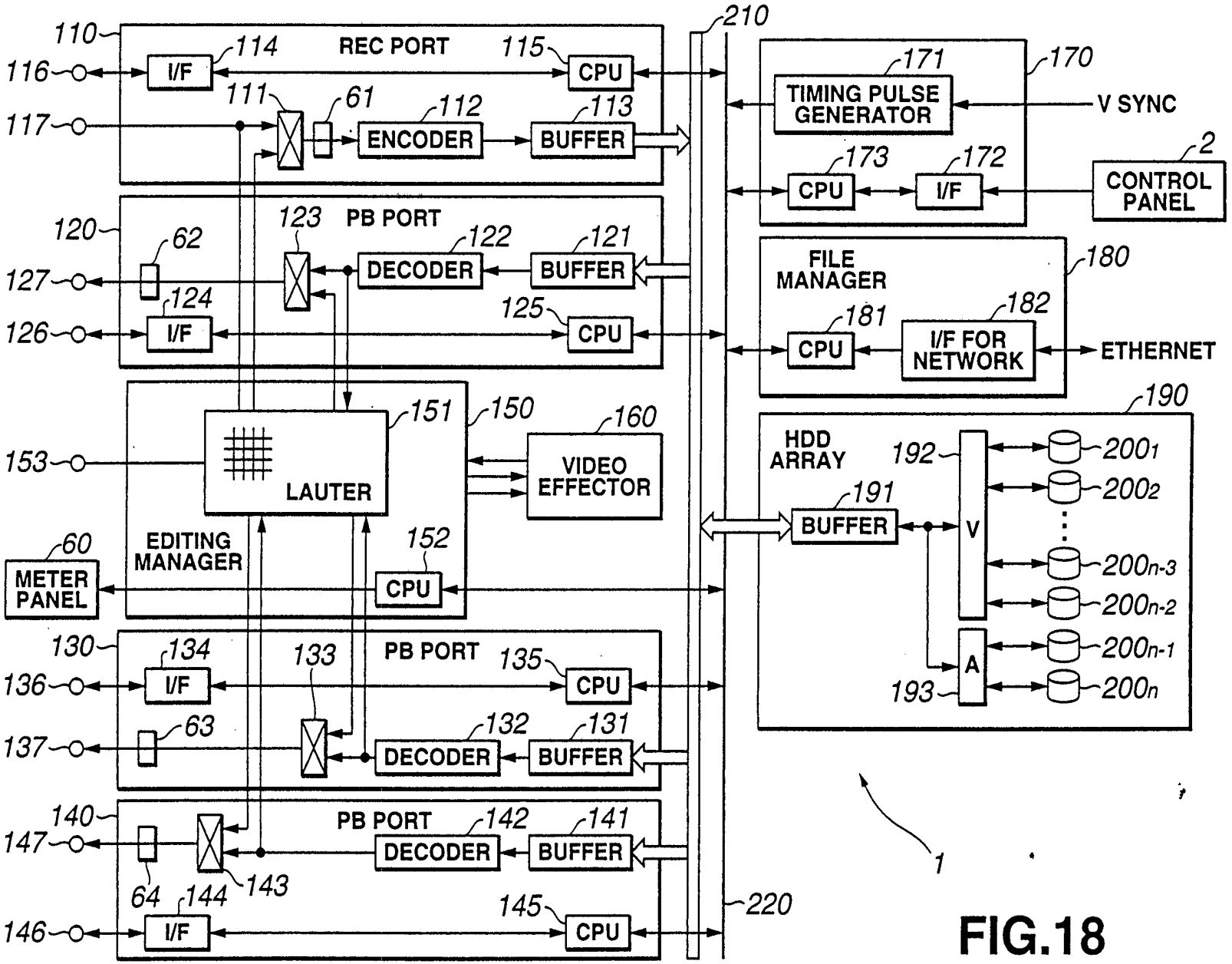
110
REC PORT
114
I/F
115
CPU
116
117
111
61
112
ENCODER
113
BUFFER
120
PB PORT
123
62
DECODER
122
121
BUFFER
127
124
I/F
125
CPU
126
150
151
160
153
LAUTER
VIDEO EFFECTOR
EDITING MANAGER
152
60
METER PANEL
CPU
130
PB PORT
134
133
135
I/F
CPU
136
63
132
131
137
DECODER
BUFFER
140
PB PORT
142
141
147
DECODER
BUFFER
64
144
143
145
146
I/F
CPU
210
220
171
170
TIMING PULSE GENERATOR
V SYNC
173
172
2
CPU
I/F
CONTROL PANEL
FILE MANAGER
180
181
182
CPU
I/F FOR NETWORK
ETHERNET
190
HDD ARRAY
192
191
BUFFER
V
A
193
200₁
200₂
200n-3
200n-2
200n-1
200n
1

FIG.18

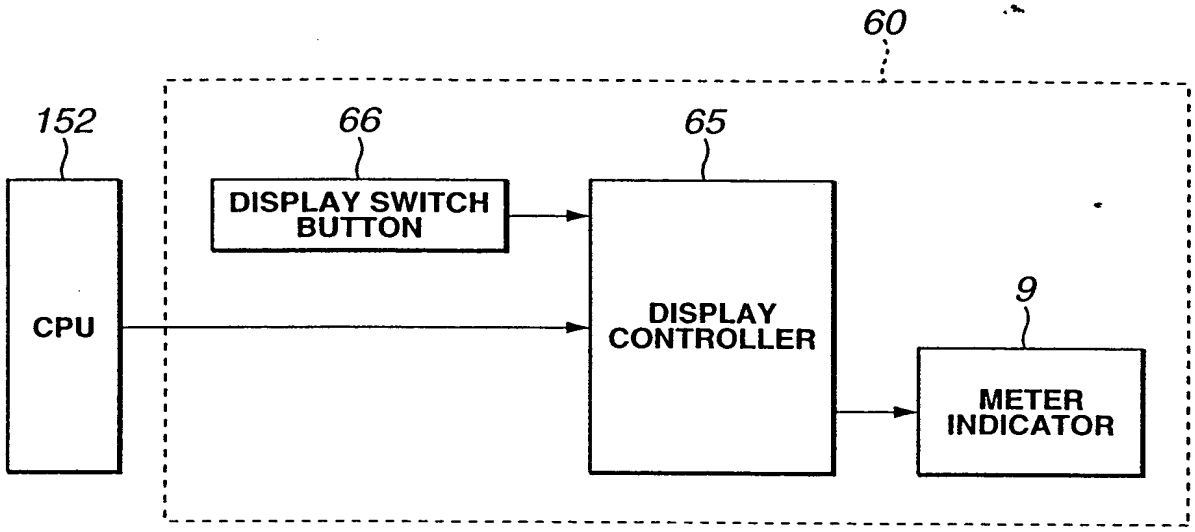
60
152
66
65
DISPLAY SWITCH BUTTON
CPU
DISPLAY CONTROLLER
9
METER INDICATOR

FIG.19

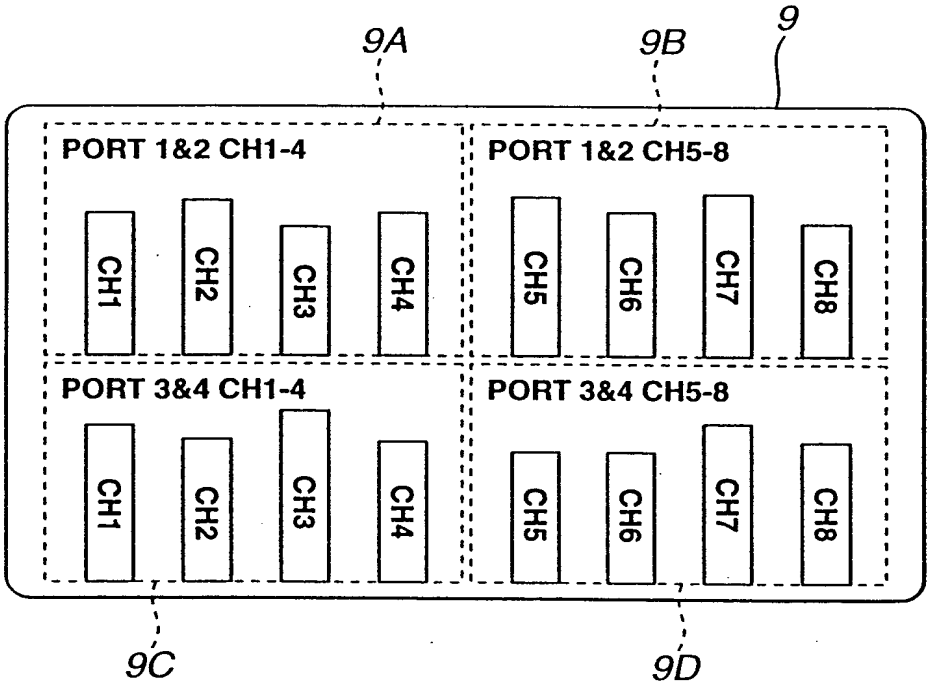
9A
9B
9
PORT 1&2 CH1-4
PORT 1&2 CH5-8
CH1
CH2
CH3
CH4
CH5
CH6
CH7
CH8
PORT 3&4 CH1-4
PORT 3&4 CH5-8
CH1
CH2
CH3
CH4
CH5
CH6
CH7
CH8
9C
9D

FIG.21

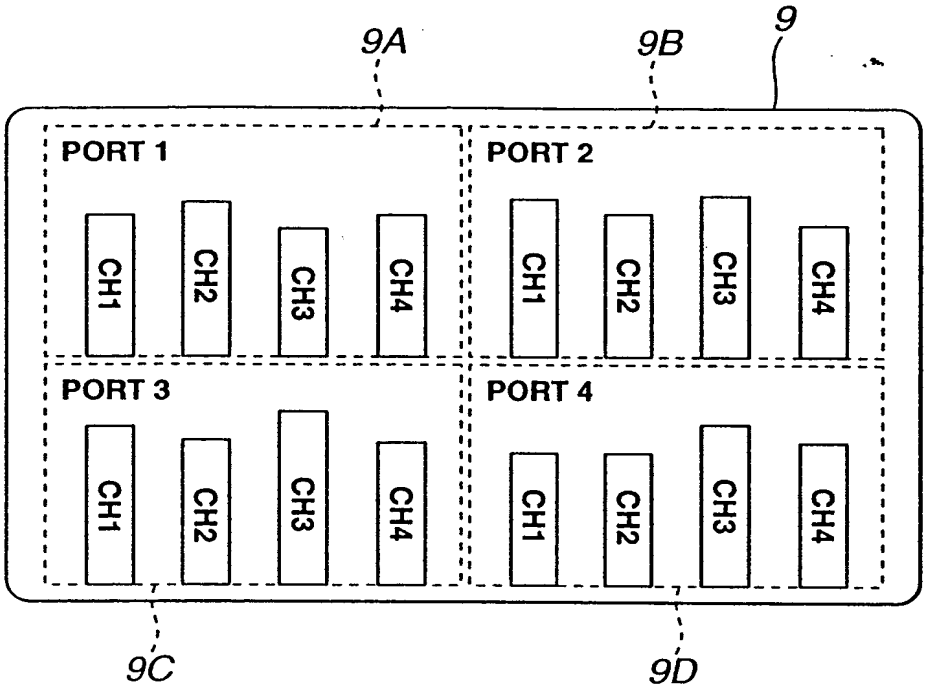

FIG.20A

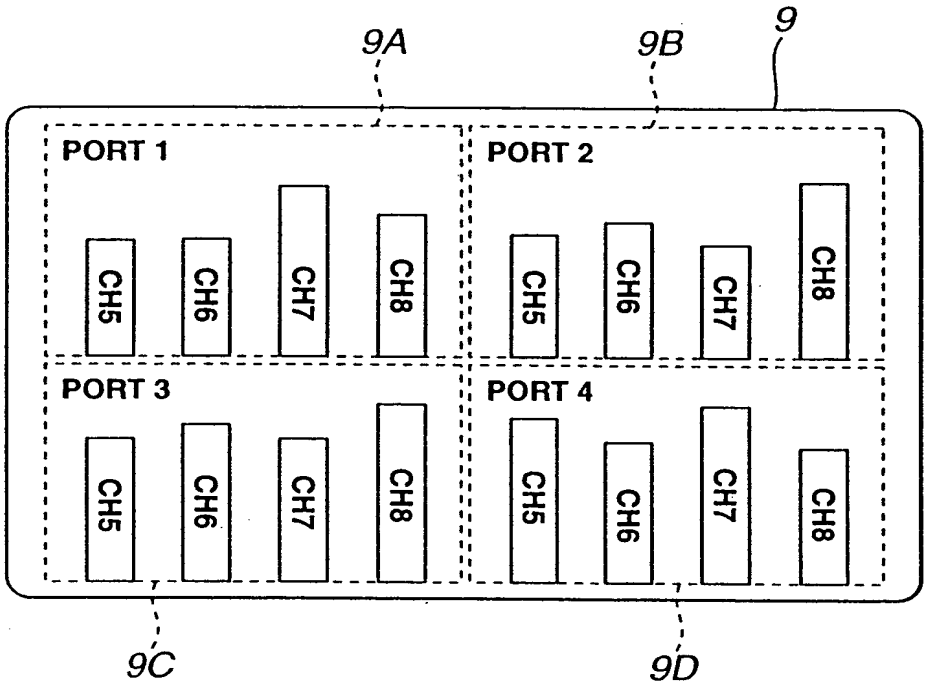

FIG.20B

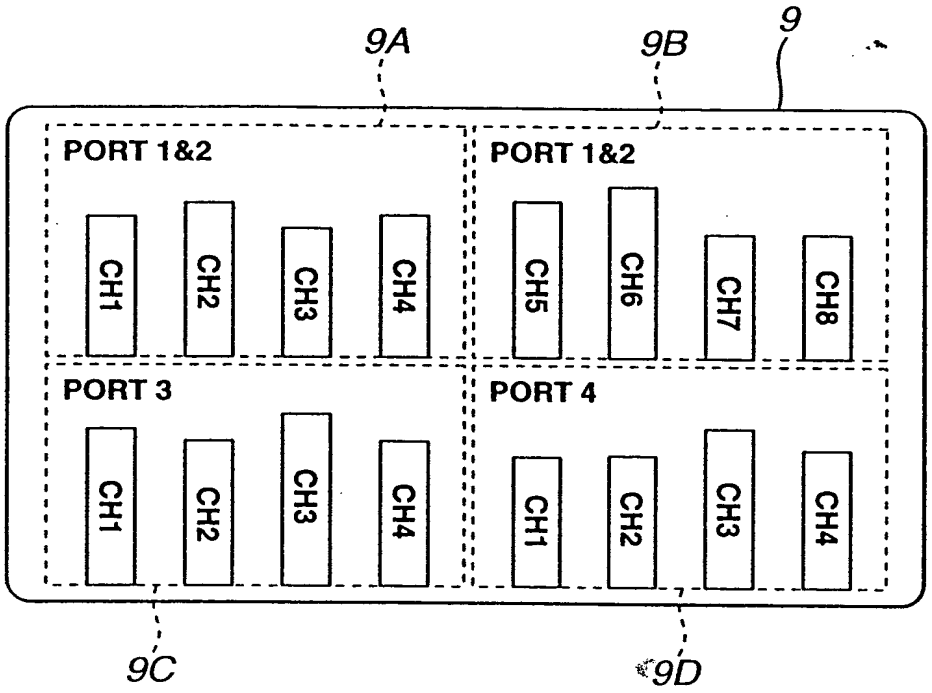

FIG.22A

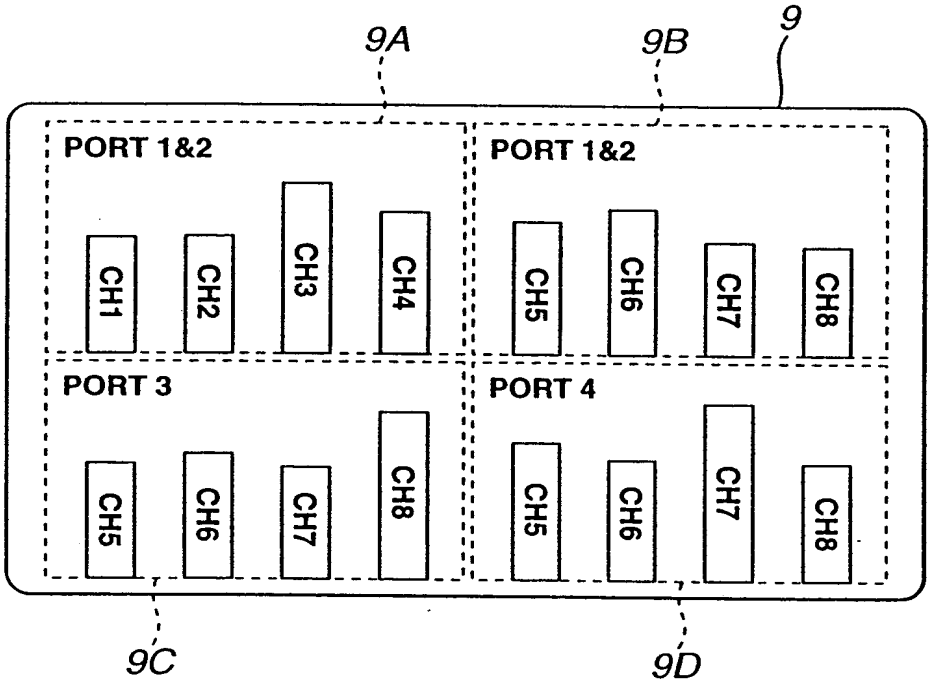

FIG.22B

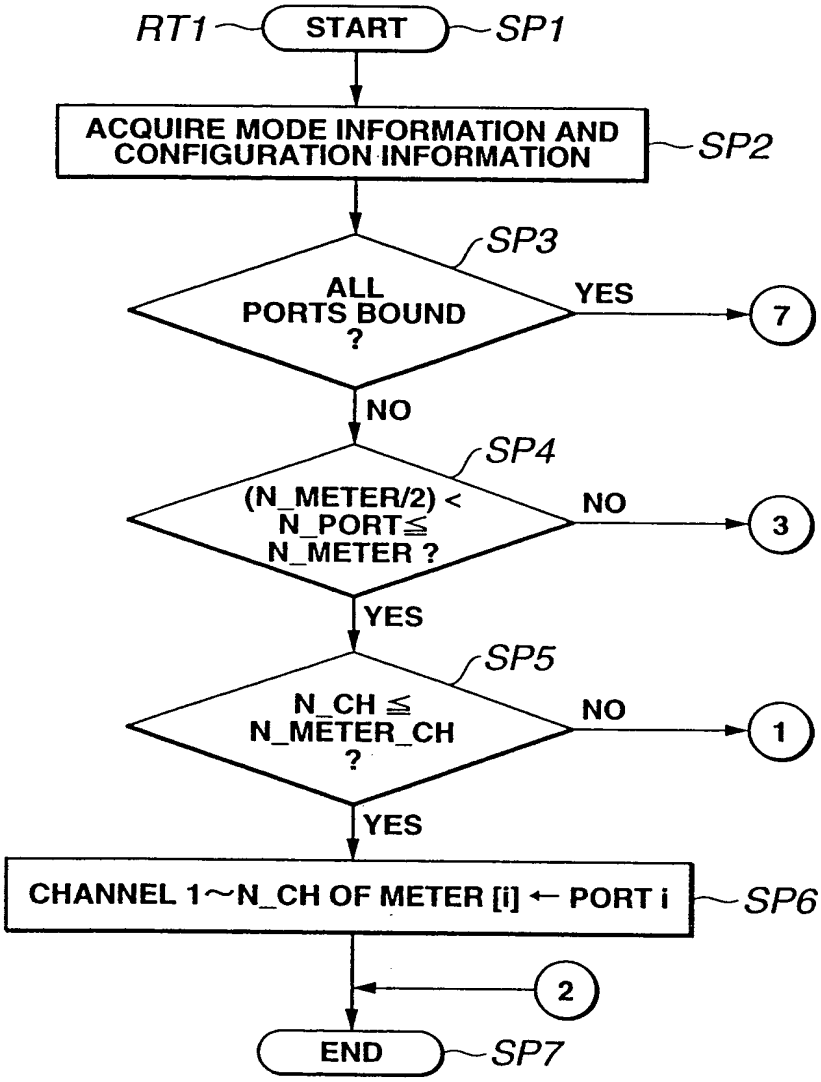
RT1
START
SP1
ACQUIRE MODE INFORMATION AND CONFIGURATION INFORMATION
SP2
SP3
ALL PORTS BOUND ?
YES
7
NO
SP4
(N_METER/2) < N_PORT≦ N_METER ?
NO
3
YES
SP5
N_CH ≦ N_METER_CH ?
NO
1
YES
CHANNEL 1~N_CH OF METER [i] ← PORT i
SP6
2
END
SP7

FIG.23

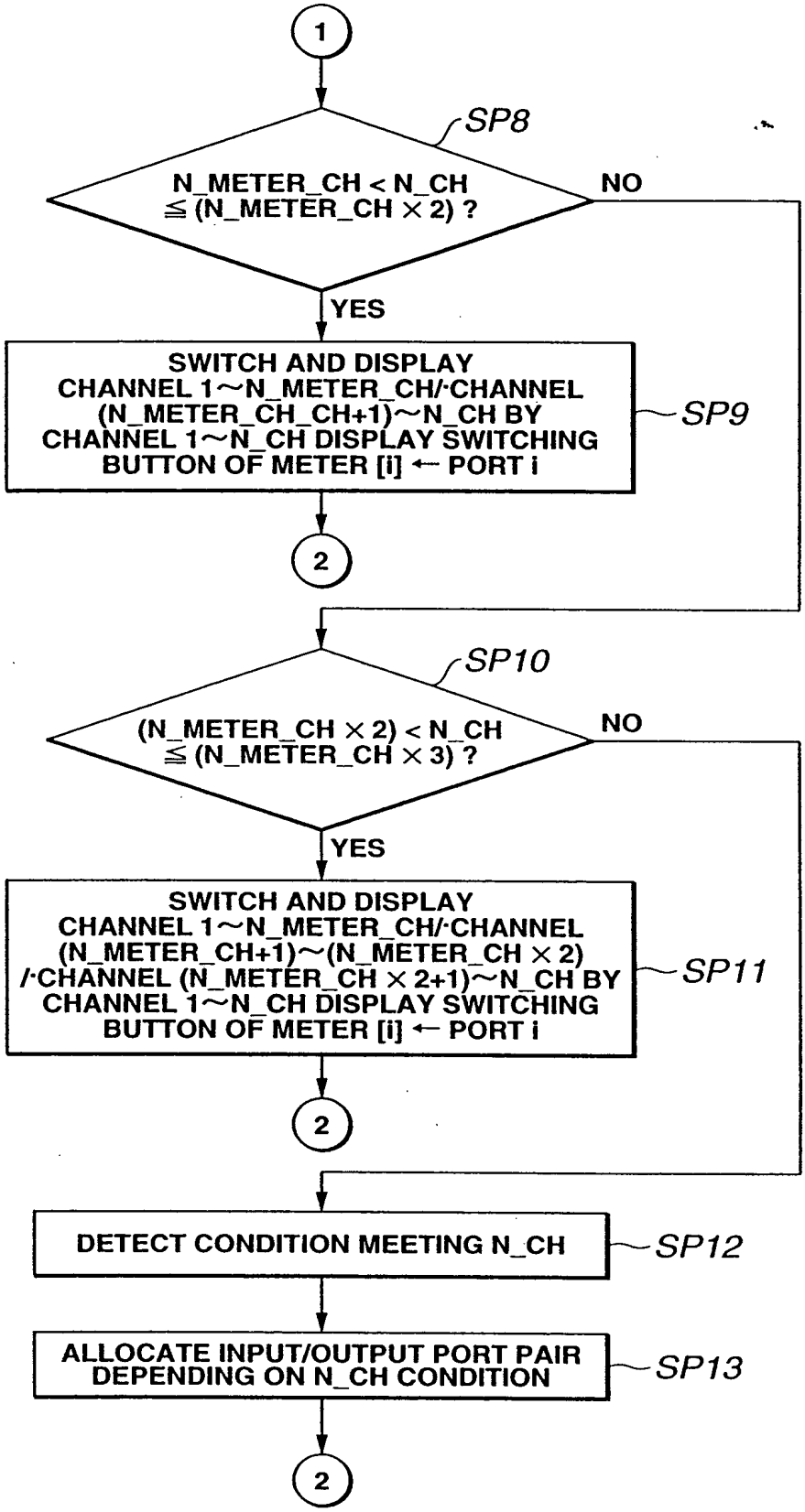
1
SP8
N_METER_CH < N_CH
≦ (N_METER_CH × 2) ?
NO
YES
SWITCH AND DISPLAY
CHANNEL 1~N_METER_CH/·CHANNEL
(N_METER_CH_CH+1)~N_CH BY
CHANNEL 1~N_CH DISPLAY SWITCHING
BUTTON OF METER [i] ← PORT i
SP9
2
SP10
(N_METER_CH × 2) < N_CH
≦ (N_METER_CH × 3) ?
NO
YES
SWITCH AND DISPLAY
CHANNEL 1~N_METER_CH/·CHANNEL
(N_METER_CH+1)~(N_METER_CH × 2)
/·CHANNEL (N_METER_CH × 2+1)~N_CH BY
CHANNEL 1~N_CH DISPLAY SWITCHING
BUTTON OF METER [i] ← PORT i
SP11
2
DETECT CONDITION MEETING N_CH
SP12
ALLOCATE INPUT/OUTPUT PORT PAIR
DEPENDING ON N_CH CONDITION
SP13
2

FIG.24

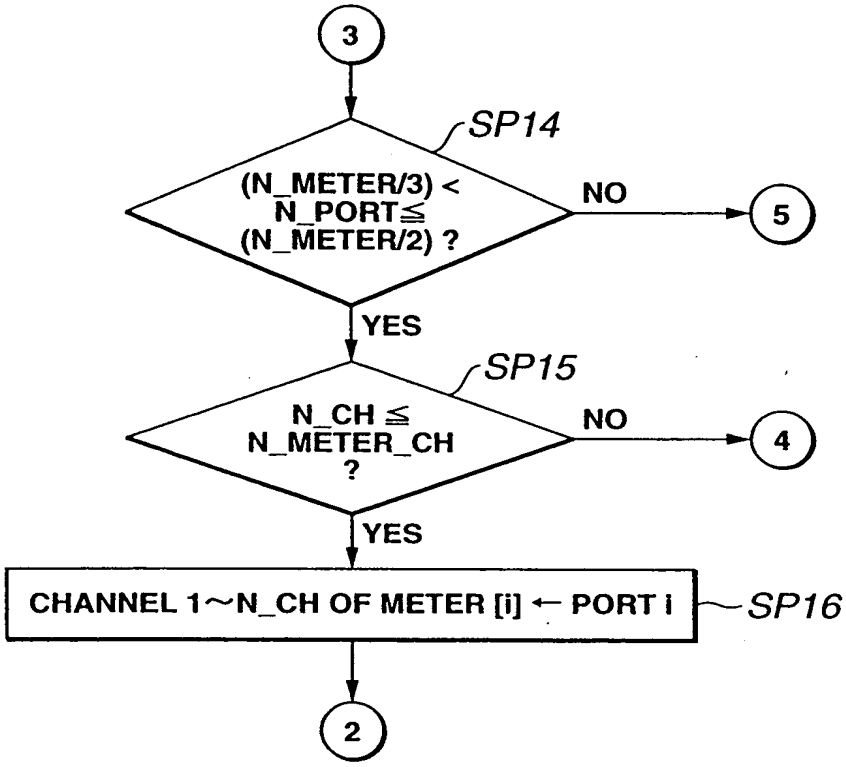
3
SP14
(N_METER/3) < N_PORT≦ (N_METER/2) ?
NO
5
YES
SP15
N_CH ≦ N_METER_CH ?
NO
4
YES
CHANNEL 1~N_CH OF METER [i] ← PORT i
SP16
2

FIG.25

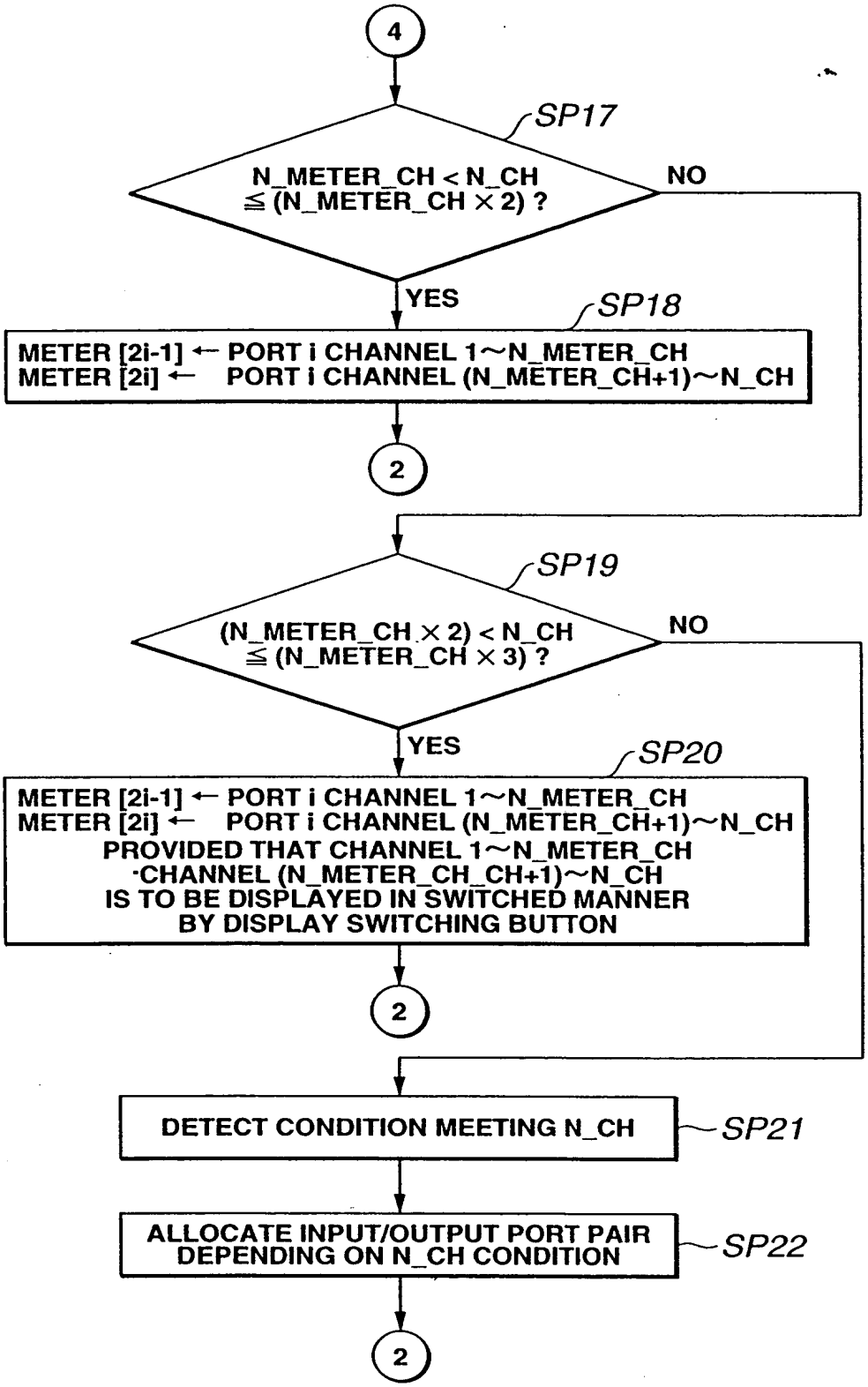
4
SP17
N_METER_CH < N_CH
≦ (N_METER_CH × 2) ?
NO
YES
SP18
METER [2i-1] ← PORT i CHANNEL 1~N_METER_CH
METER [2i] ← PORT i CHANNEL (N_METER_CH+1)~N_CH
2
SP19
(N_METER_CH × 2) < N_CH
≦ (N_METER_CH × 3) ?
NO
YES
SP20
METER [2i-1] ← PORT i CHANNEL 1~N_METER_CH
METER [2i] ← PORT i CHANNEL (N_METER_CH+1)~N_CH
PROVIDED THAT CHANNEL 1~N_METER_CH
·CHANNEL (N_METER_CH_CH+1)~N_CH
IS TO BE DISPLAYED IN SWITCHED MANNER
BY DISPLAY SWITCHING BUTTON
2
DETECT CONDITION MEETING N_CH
SP21
ALLOCATE INPUT/OUTPUT PORT PAIR
DEPENDING ON N_CH CONDITION
SP22
2

FIG.26

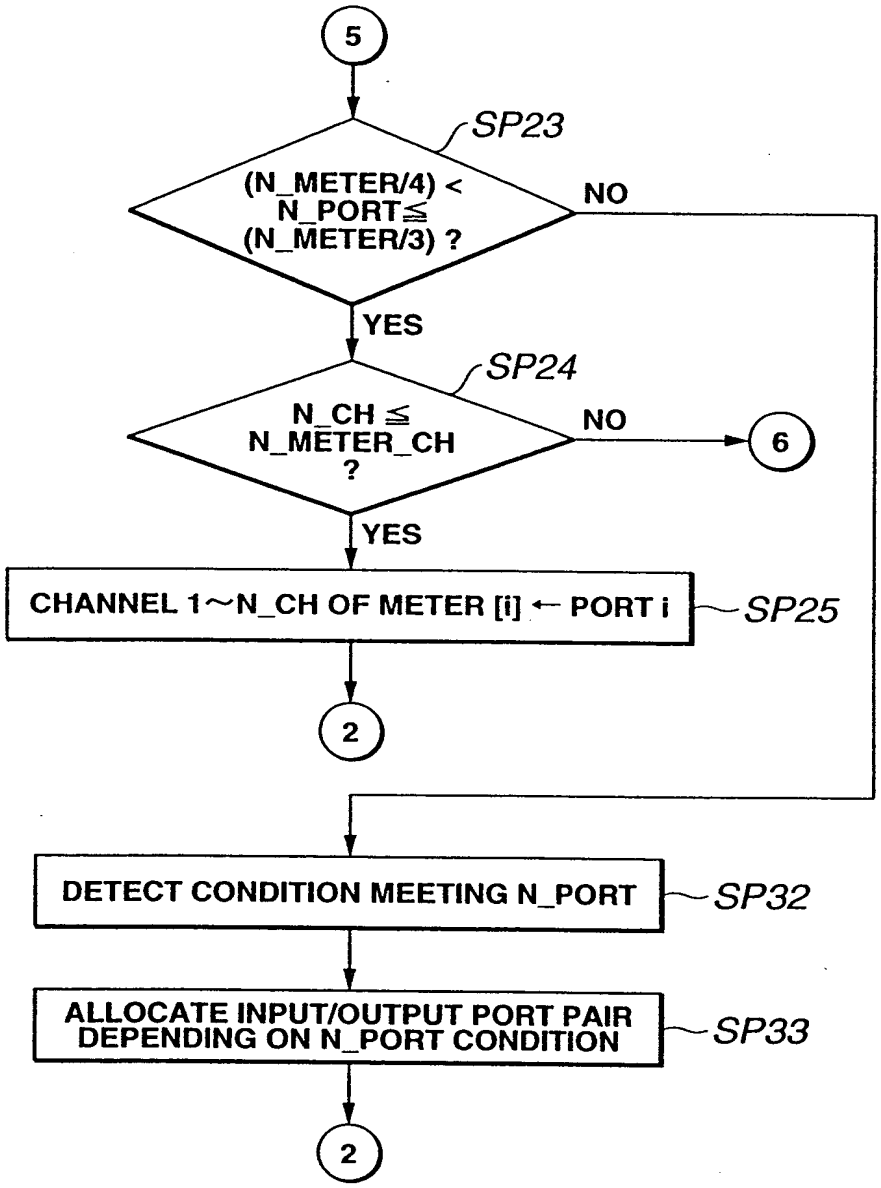
5
SP23
(N_METER/4) < N_PORT≦ (N_METER/3) ?
NO
YES
SP24
N_CH ≦ N_METER_CH ?
NO
6
YES
CHANNEL 1~N_CH OF METER [i] ← PORT i
SP25
2
DETECT CONDITION MEETING N_PORT
SP32
ALLOCATE INPUT/OUTPUT PORT PAIR DEPENDING ON N_PORT CONDITION
SP33
2

FIG.27

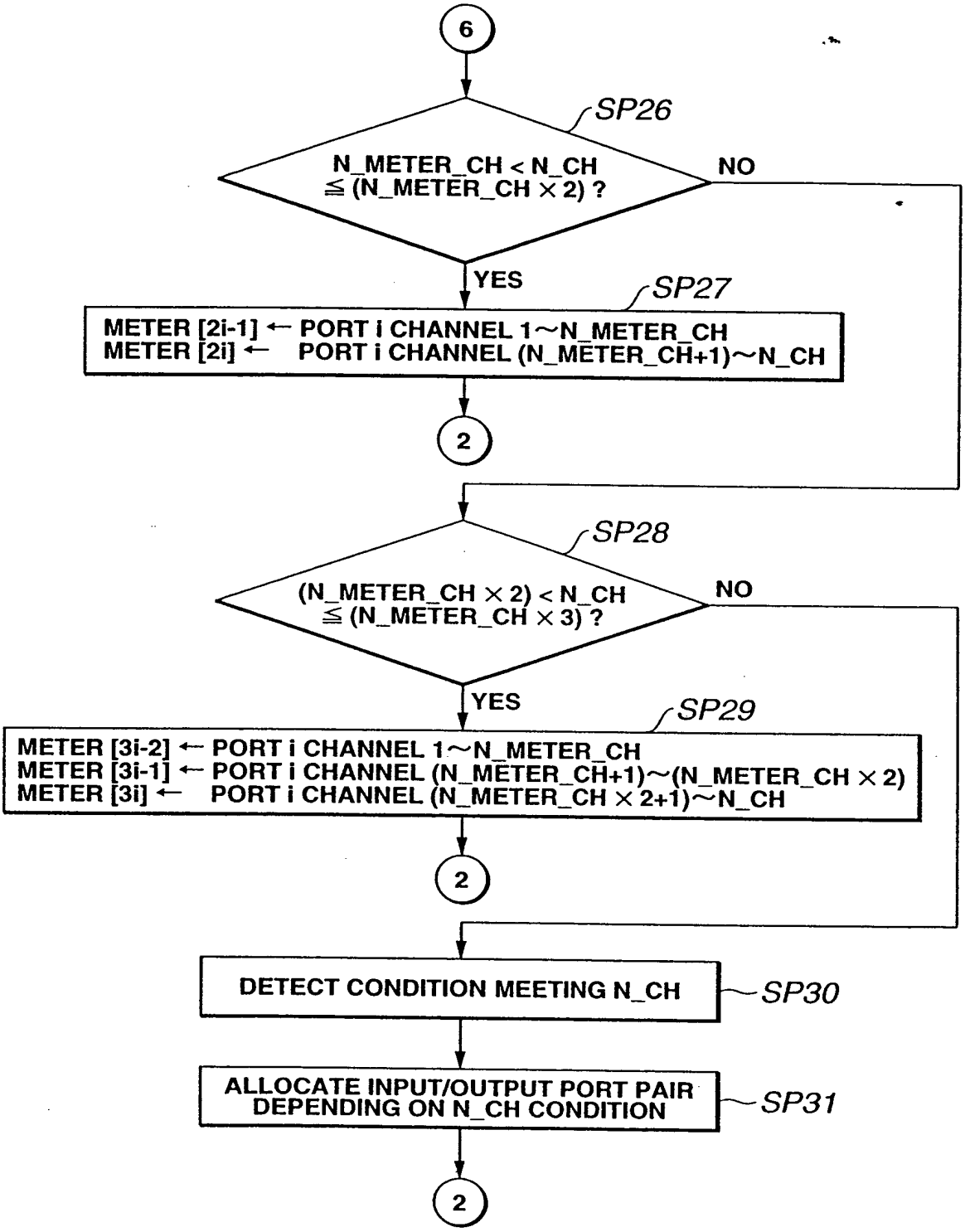
6
SP26
N_METER_CH < N_CH
≦ (N_METER_CH × 2) ?
NO
YES
SP27
METER [2i-1] ← PORT i CHANNEL 1~N_METER_CH
METER [2i] ← PORT i CHANNEL (N_METER_CH+1)~N_CH
2
SP28
(N_METER_CH × 2) < N_CH
≦ (N_METER_CH × 3) ?
NO
YES
SP29
METER [3i-2] ← PORT i CHANNEL 1~N_METER_CH
METER [3i-1] ← PORT i CHANNEL (N_METER_CH+1)~(N_METER_CH × 2)
METER [3i] ← PORT i CHANNEL (N_METER_CH × 2+1)~N_CH
2
DETECT CONDITION MEETING N_CH
SP30
ALLOCATE INPUT/OUTPUT PORT PAIR DEPENDING ON N_CH CONDITION
SP31
2

FIG.28

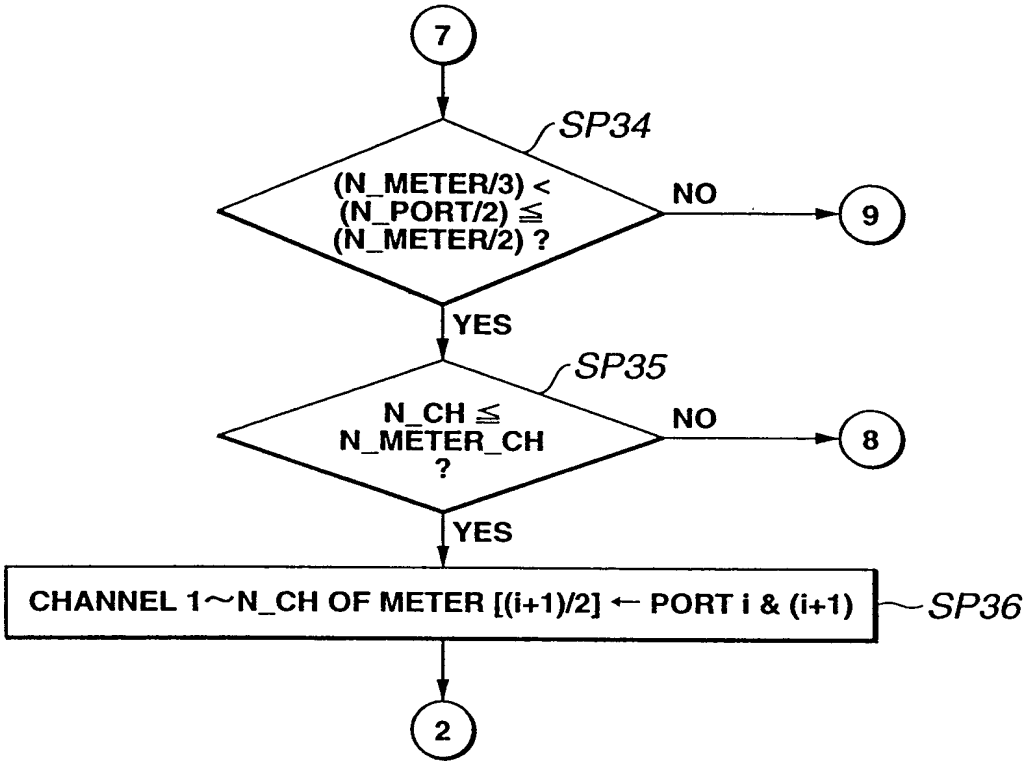
7
SP34
(N_METER/3) < (N_PORT/2) ≦ (N_METER/2) ?
NO
9
YES
SP35
N_CH ≦ N_METER_CH ?
NO
8
YES
CHANNEL 1~N_CH OF METER [(i+1)/2] ← PORT i & (i+1)
SP36
2

FIG.29

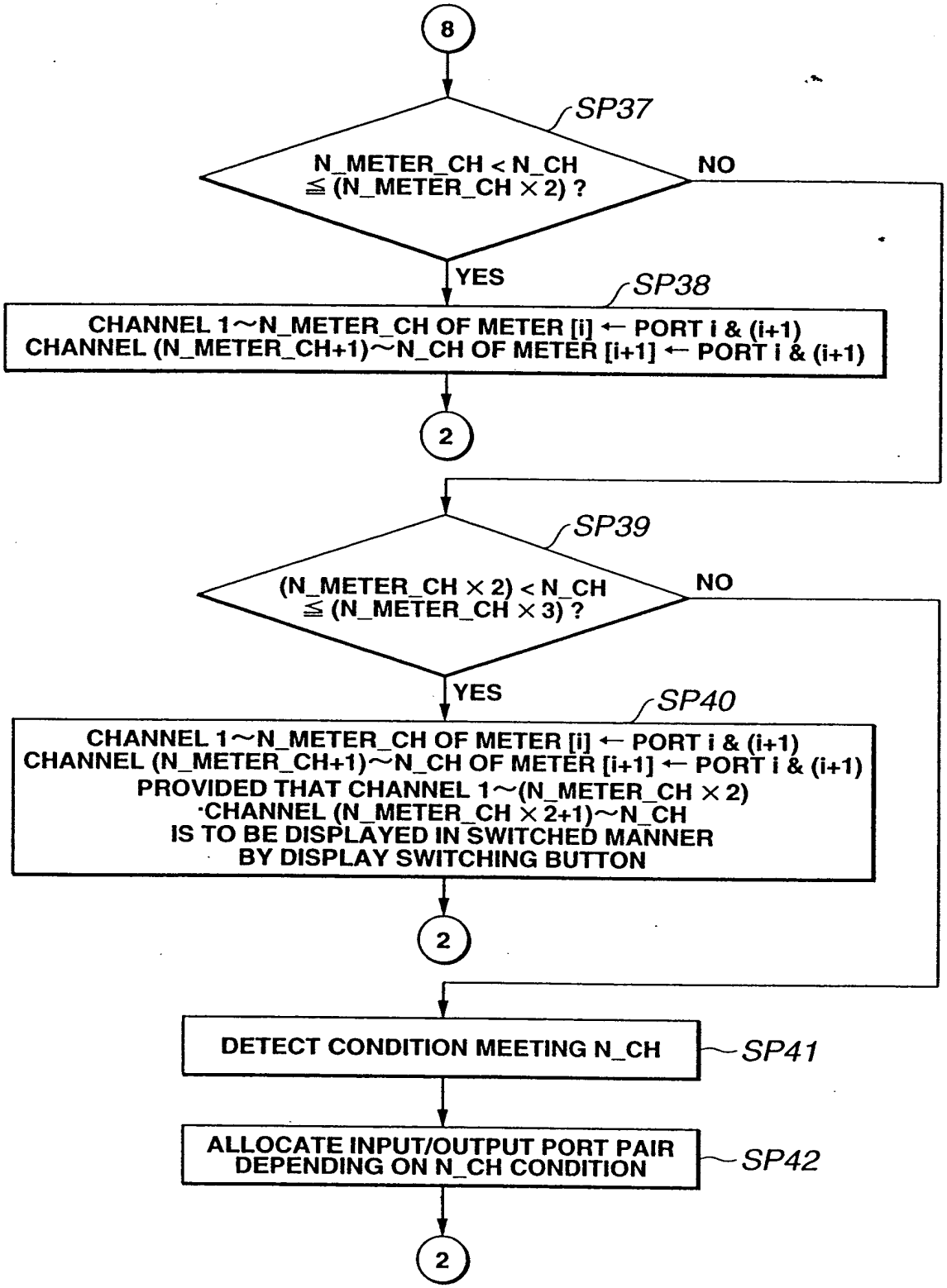
8
SP37
N_METER_CH < N_CH
≦ (N_METER_CH × 2) ?
NO
YES
SP38
CHANNEL 1～N_METER_CH OF METER [i] ← PORT i & (i+1)
CHANNEL (N_METER_CH+1)～N_CH OF METER [i+1] ← PORT i & (i+1)
2
SP39
(N_METER_CH × 2) < N_CH
≦ (N_METER_CH × 3) ?
NO
YES
SP40
CHANNEL 1～N_METER_CH OF METER [i] ← PORT i & (i+1)
CHANNEL (N_METER_CH+1)～N_CH OF METER [i+1] ← PORT i & (i+1)
PROVIDED THAT CHANNEL 1～(N_METER_CH × 2)
·CHANNEL (N_METER_CH × 2+1)～N_CH
IS TO BE DISPLAYED IN SWITCHED MANNER
BY DISPLAY SWITCHING BUTTON
2
DETECT CONDITION MEETING N_CH
SP41
ALLOCATE INPUT/OUTPUT PORT PAIR
DEPENDING ON N_CH CONDITION
SP42
2

FIG.30

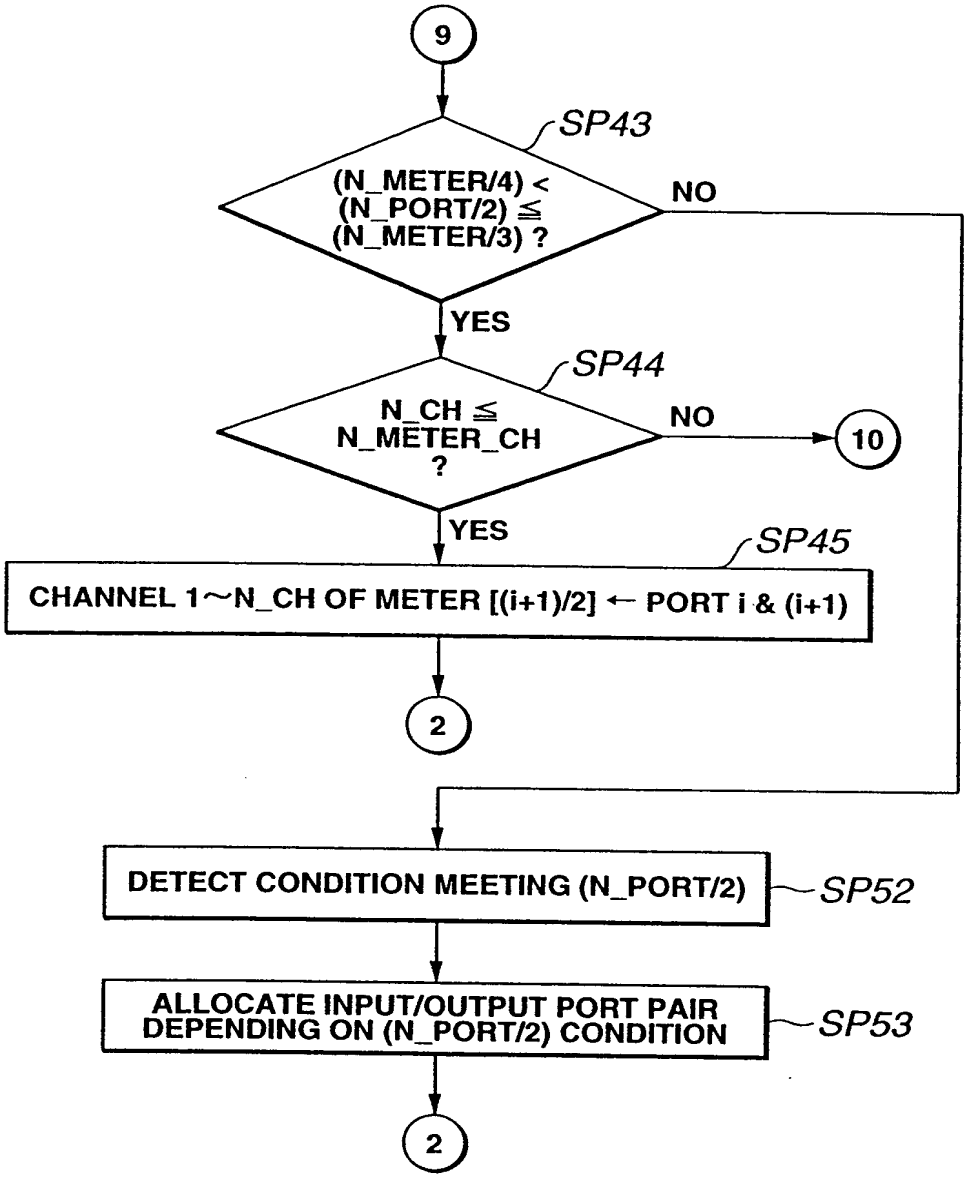
9
SP43
(N_METER/4) < (N_PORT/2) ≦ (N_METER/3) ?
NO
YES
SP44
N_CH ≦ N_METER_CH ?
NO
10
YES
SP45
CHANNEL 1~N_CH OF METER [(i+1)/2] ← PORT i & (i+1)
2
DETECT CONDITION MEETING (N_PORT/2)
SP52
ALLOCATE INPUT/OUTPUT PORT PAIR DEPENDING ON (N_PORT/2) CONDITION
SP53
2

FIG.31

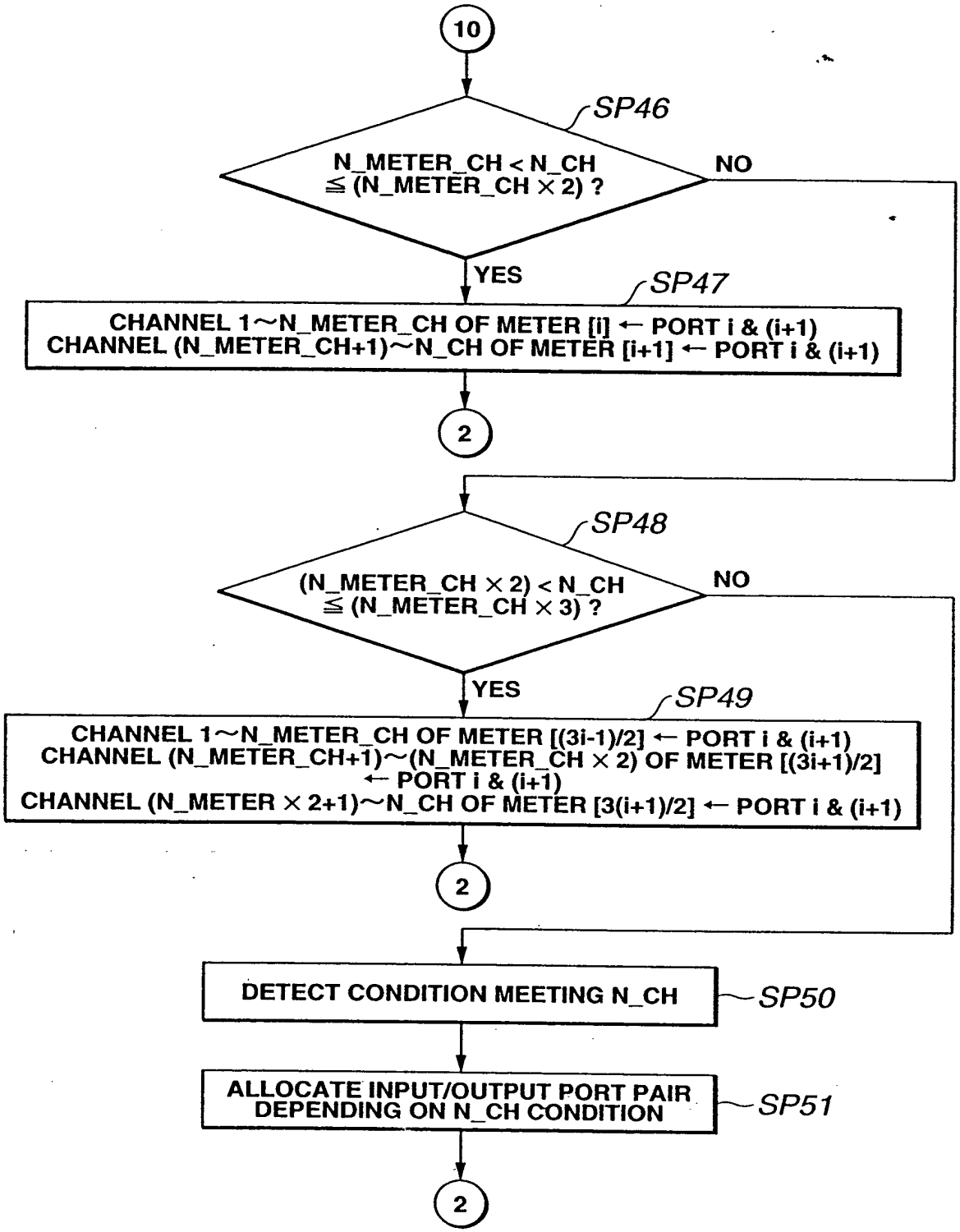
10
SP46
N_METER_CH < N_CH
≦ (N_METER_CH × 2) ?
NO
YES
SP47
CHANNEL 1~N_METER_CH OF METER [i] ← PORT i & (i+1)
CHANNEL (N_METER_CH+1)~N_CH OF METER [i+1] ← PORT i & (i+1)
2
SP48
(N_METER_CH × 2) < N_CH
≦ (N_METER_CH × 3) ?
NO
YES
SP49
CHANNEL 1~N_METER_CH OF METER [(3i-1)/2] ← PORT i & (i+1)
CHANNEL (N_METER_CH+1)~(N_METER_CH × 2) OF METER [(3i+1)/2]
← PORT i & (i+1)
CHANNEL (N_METER × 2+1)~N_CH OF METER [3(i+1)/2] ← PORT i & (i+1)
2
DETECT CONDITION MEETING N_CH
SP50
ALLOCATE INPUT/OUTPUT PORT PAIR
DEPENDING ON N_CH CONDITION
SP51
2

FIG.32

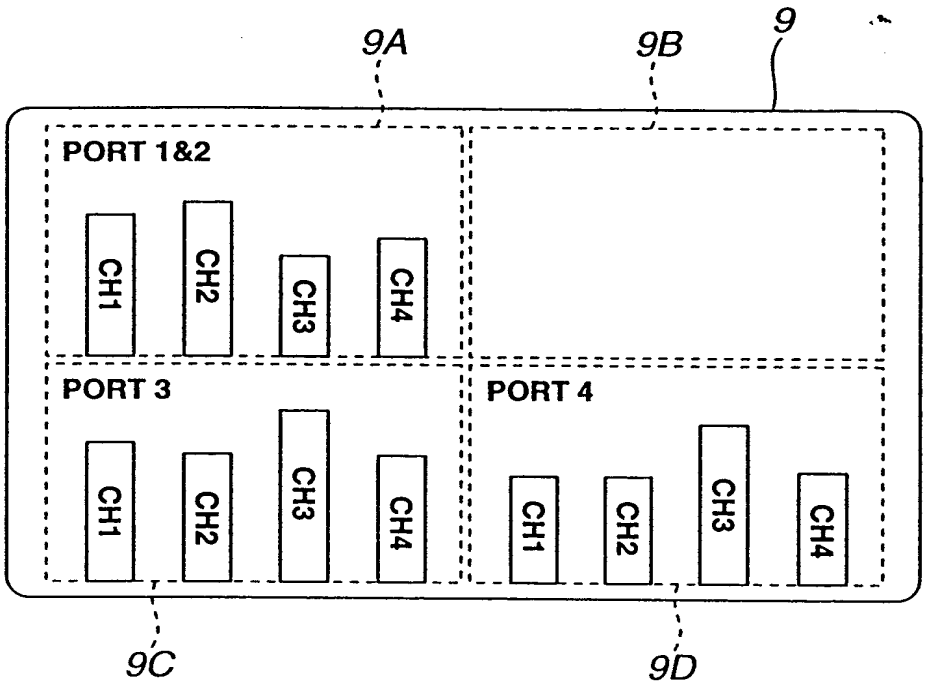

FIG.33A

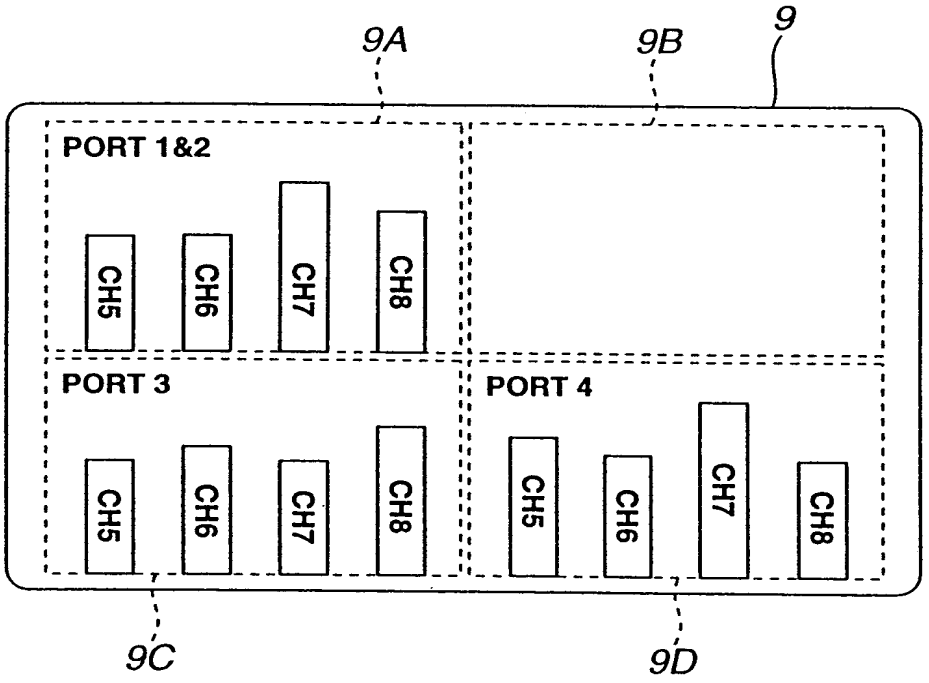

FIG.33B

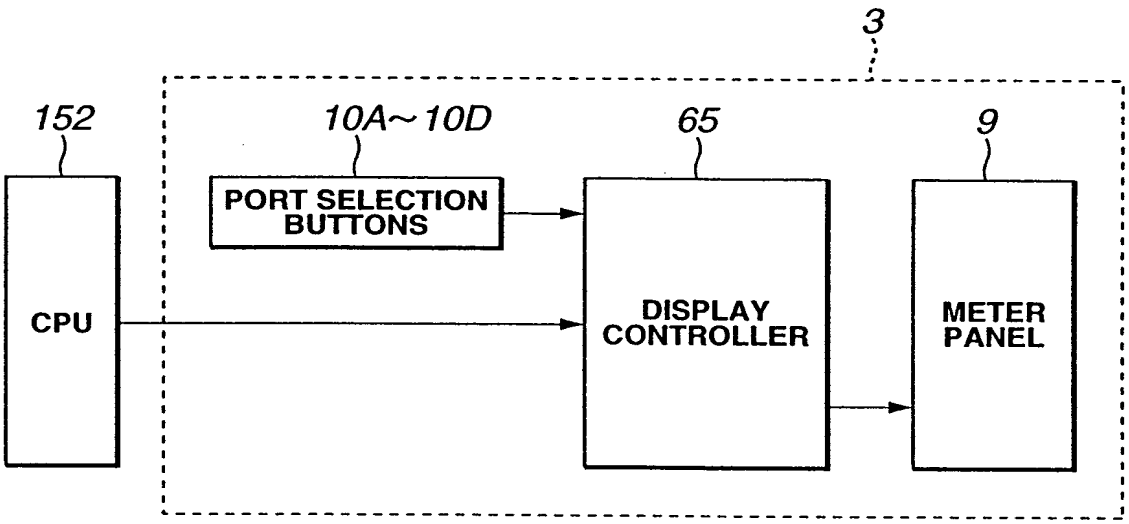
3
152
10A~10D
65
9
PORT SELECTION BUTTONS
CPU
DISPLAY CONTROLLER
METER PANEL

FIG.34

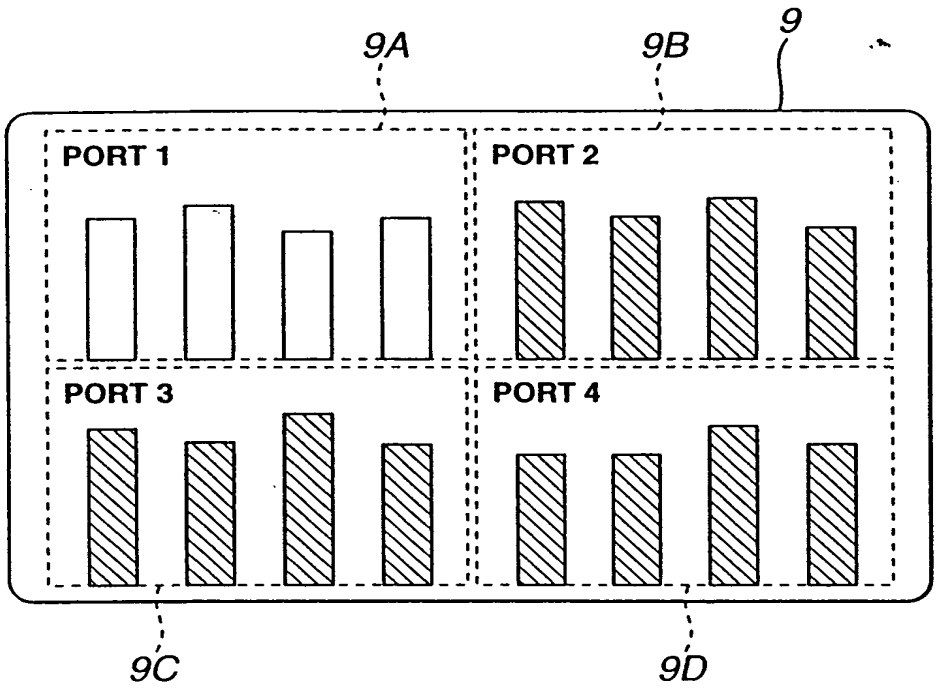
9A
9B
9
PORT 1
PORT 2
PORT 3
PORT 4
9C
9D

FIG.35

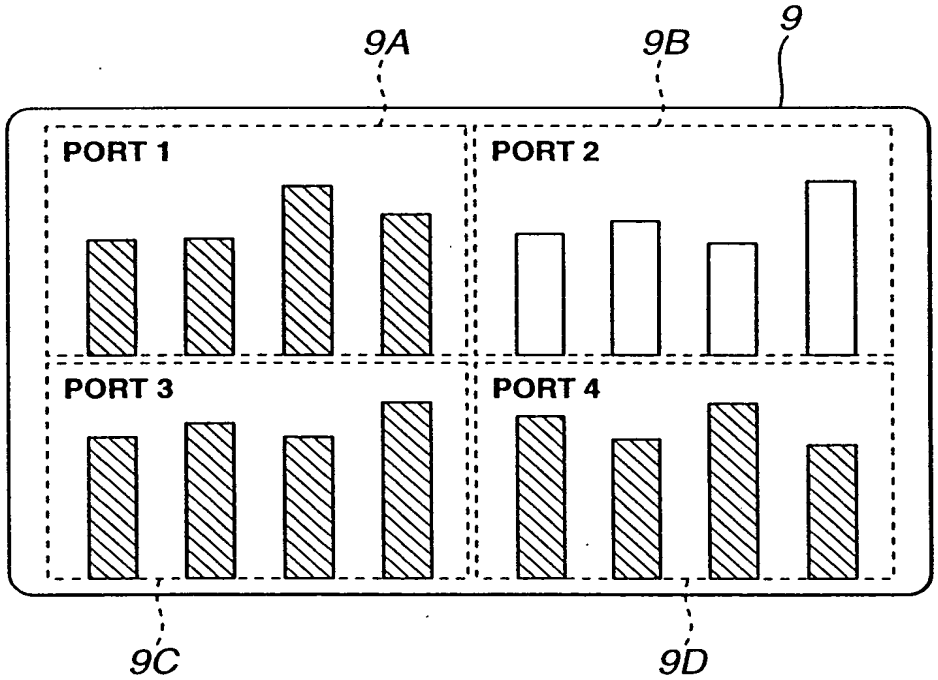
9A
9B
9
PORT 1
PORT 2
PORT 3
PORT 4
9C
9D

FIG.36

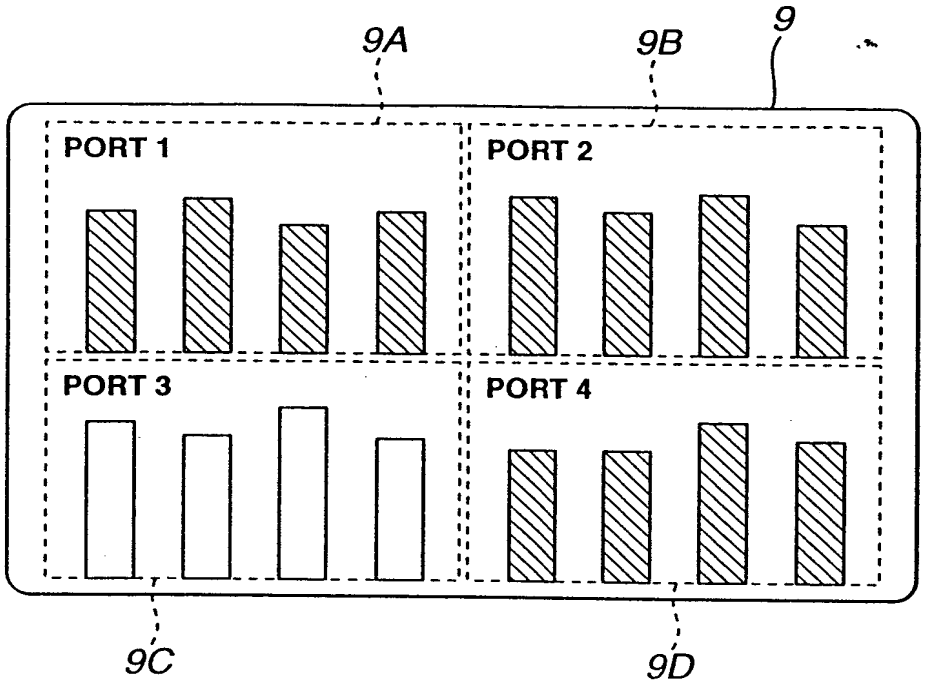
9A
9B
9
PORT 1
PORT 2
PORT 3
PORT 4
9C
9D

FIG.37

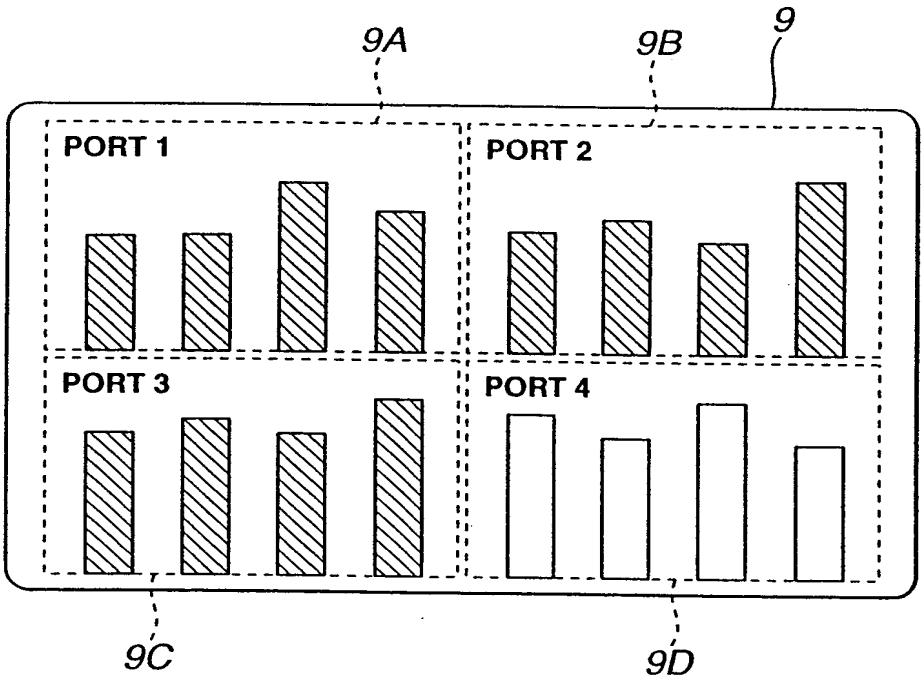
9A
9B
9
PORT 1
PORT 2
PORT 3
PORT 4
9C
9D

FIG.38

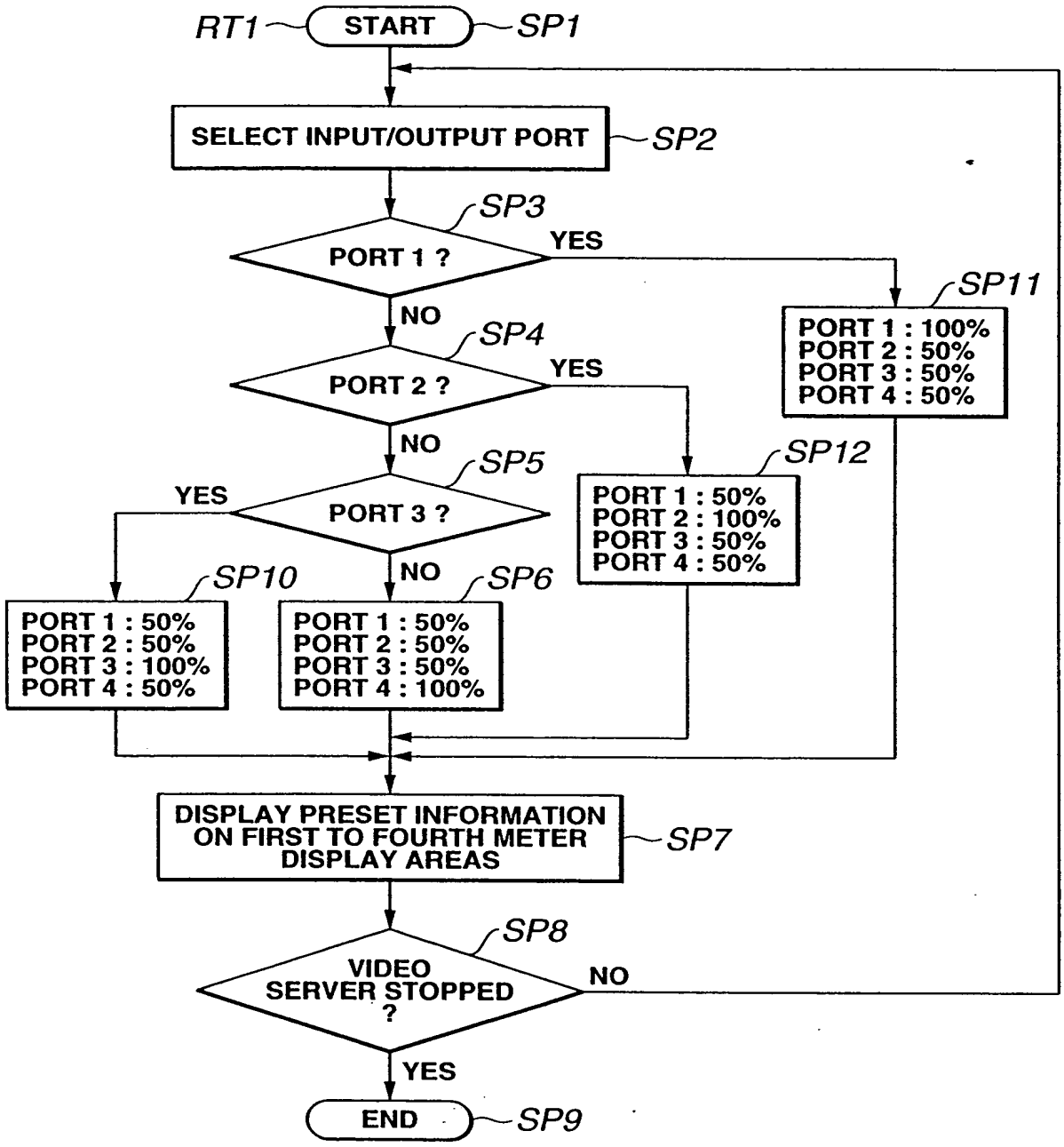
RT1
START
SP1
SELECT INPUT/OUTPUT PORT
SP2
SP3
PORT 1 ?
YES
NO
SP11
PORT 1 : 100%
PORT 2 : 50%
PORT 3 : 50%
PORT 4 : 50%
SP4
PORT 2 ?
YES
NO
SP12
PORT 1 : 50%
PORT 2 : 100%
PORT 3 : 50%
PORT 4 : 50%
SP5
PORT 3 ?
YES
NO
SP10
PORT 1 : 50%
PORT 2 : 50%
PORT 3 : 100%
PORT 4 : 50%
SP6
PORT 1 : 50%
PORT 2 : 50%
PORT 3 : 50%
PORT 4 : 100%
DISPLAY PRESET INFORMATION ON FIRST TO FOURTH METER DISPLAY AREAS
SP7
SP8
VIDEO SERVER STOPPED ?
NO
YES
END
SP9

FIG.39

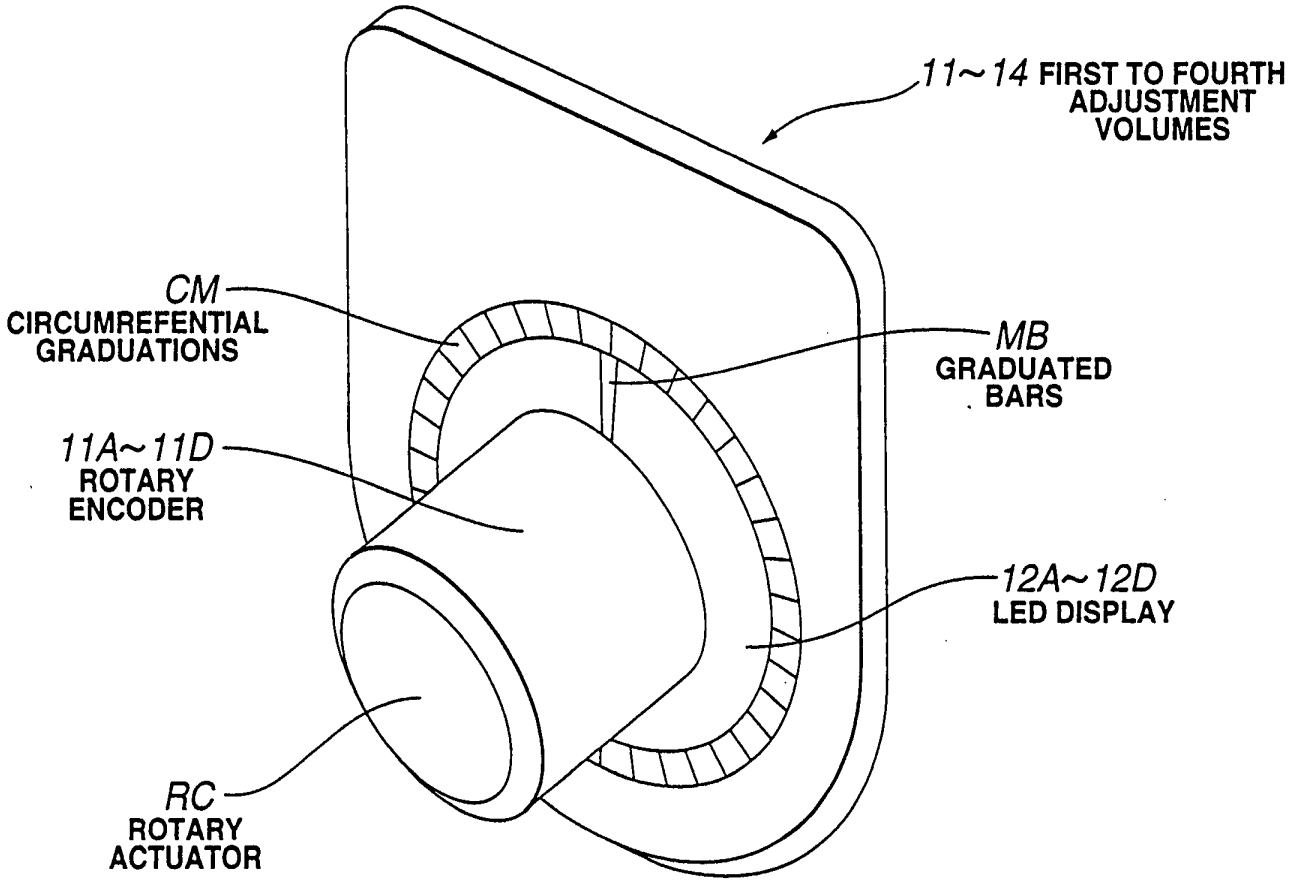
11~14 FIRST TO FOURTH ADJUSTMENT VOLUMES
CM CIRCUMREFENTIAL GRADUATIONS
MB GRADUATED BARS
11A~11D ROTARY ENCODER
12A~12D LED DISPLAY
RC ROTARY ACTUATOR

FIG.40

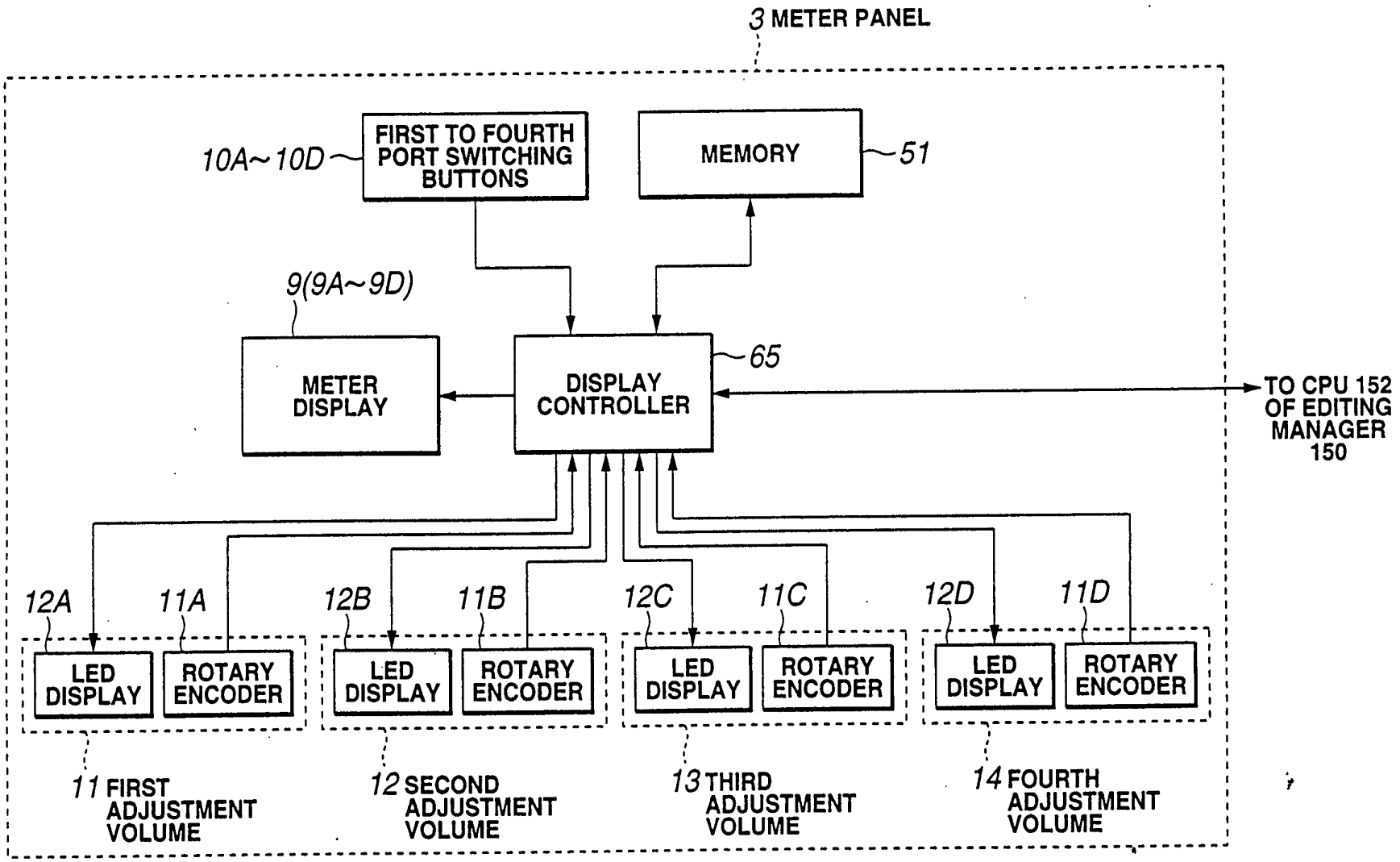
3 METER PANEL
10A~10D
FIRST TO FOURTH PORT SWITCHING BUTTONS
MEMORY
51
9(9A~9D)
METER DISPLAY
DISPLAY CONTROLLER
65
TO CPU 152 OF EDITING MANAGER 150
12A
11A
12B
11B
12C
11C
12D
11D
LED DISPLAY
ROTARY ENCODER
LED DISPLAY
ROTARY ENCODER
LED DISPLAY
ROTARY ENCODER
LED DISPLAY
ROTARY ENCODER
11 FIRST ADJUSTMENT VOLUME
12 SECOND ADJUSTMENT VOLUME
13 THIRD ADJUSTMENT VOLUME
14 FOURTH ADJUSTMENT VOLUME

FIG.41

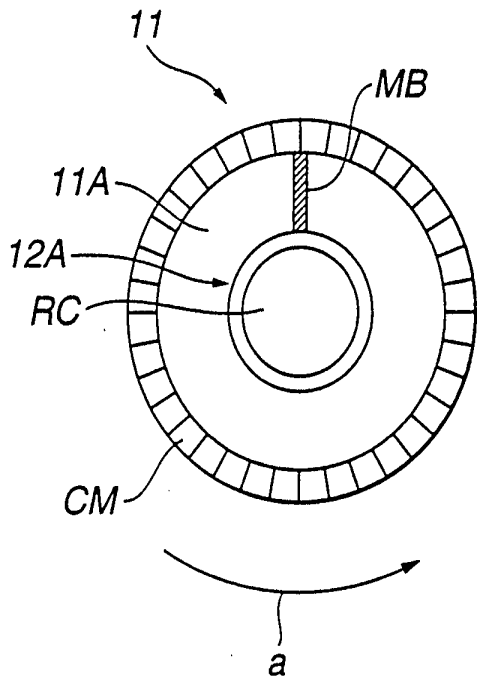

FIG.42A

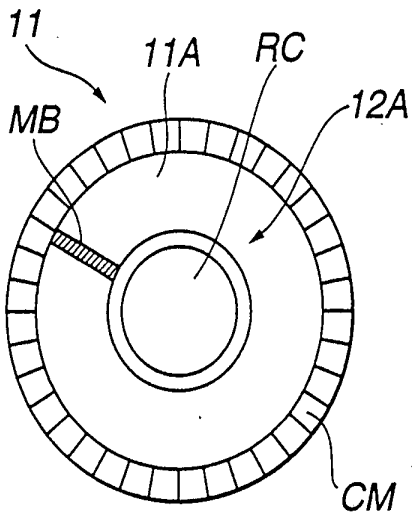

FIG.42B

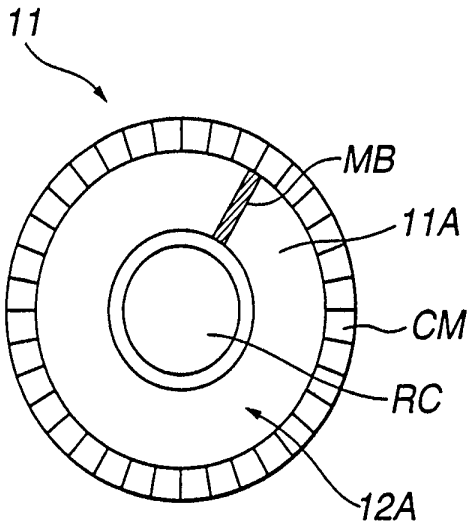

FIG.42C

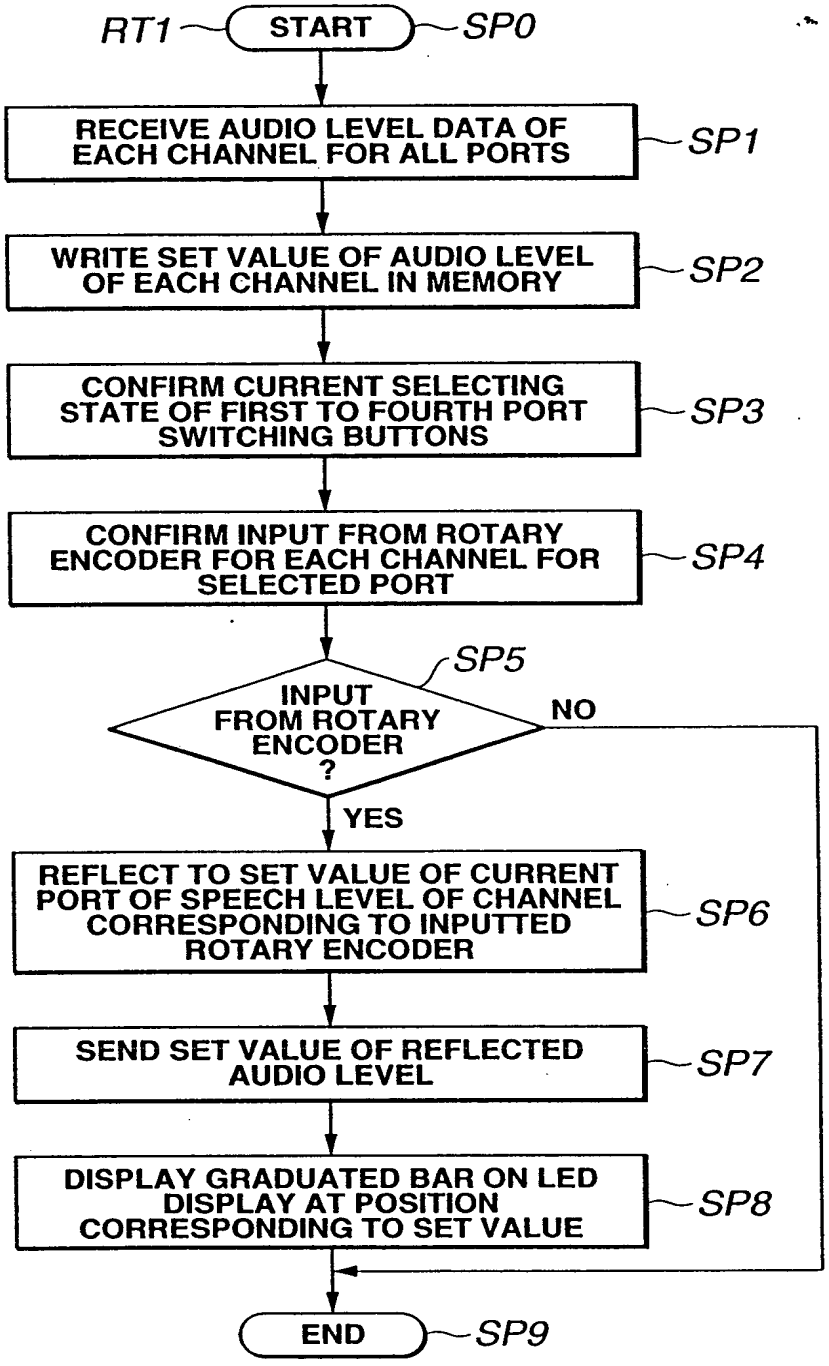
RT1
START
SP0
RECEIVE AUDIO LEVEL DATA OF EACH CHANNEL FOR ALL PORTS
SP1
WRITE SET VALUE OF AUDIO LEVEL OF EACH CHANNEL IN MEMORY
SP2
CONFIRM CURRENT SELECTING STATE OF FIRST TO FOURTH PORT SWITCHING BUTTONS
SP3
CONFIRM INPUT FROM ROTARY ENCODER FOR EACH CHANNEL FOR SELECTED PORT
SP4
SP5
INPUT FROM ROTARY ENCODER ?
NO
YES
REFLECT TO SET VALUE OF CURRENT PORT OF SPEECH LEVEL OF CHANNEL CORRESPONDING TO INPUTTED ROTARY ENCODER
SP6
SEND SET VALUE OF REFLECTED AUDIO LEVEL
SP7
DISPLAY GRADUATED BAR ON LED DISPLAY AT POSITION CORRESPONDING TO SET VALUE
SP8
END
SP9

FIG.43